PALESTINE EXPLORATION QUARTERLY

Embodying the *Quarterly Statement* of the Palestine Exploration Fund and the *Bulletin* of the British School of Archæology in Jerusalem

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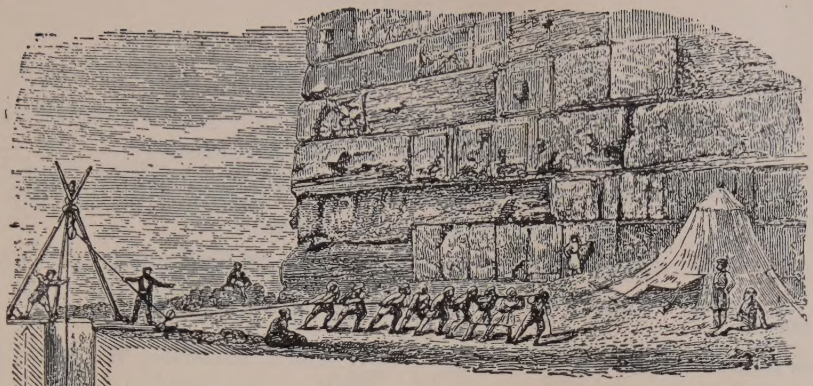

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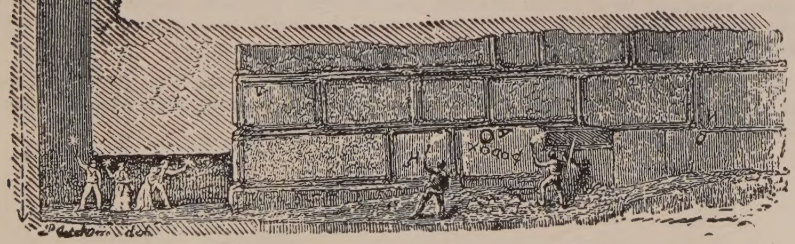

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THE PALESTINE EXPLORATION FUND

NOTES AND NEWS

Professor S. H. Hooke's exploration of the field of myth and ritual has brought to light many curious aspects of the relation existing between the new occupant of an office and his predecessor. But the kind words in which, at the end of "Notes and News" in the last number of this *Quarterly*, he introduced his successor in the Editorship, were based on none of these precedents, but sprang from his native goodness and generosity of heart. The new Editor realizes only too well how much he needs the indulgence and consideration of readers and contributors, as he contemplates his task of trying to maintain the *Quarterly* at the high standard to which Professor Hooke has brought it. To play Elisha to such an Elijah, to claim the inheritance of such a mantle, is no light undertaking; and he who would make the venture might well pray for a double portion of Elijah's spirit. Fortunately, Professor Hooke has not yet crossed Jordan or gone up to heaven in a whirlwind; and the new Editor's feeling of weighty responsibility is somewhat lightened by the thought that his predecessor remains available for consultation in time of need.

A later opportunity will be sought of recording in these pages something of the esteem and affection which so many of us feel for Professor Hooke; but here and now we wish to put on record our sense of deep indebtedness to him for the way in which he has conducted this *Quarterly* for a quarter of a century, and for many other services which he has rendered to all who are interested in Palestinian archaeology and related fields of study. We are glad to think that in the coming days we may expect from him further services of the same kind, for his mental fertility and physical vigour are the delight and wonder of his friends. Long may his bow abide in strength!

The Siege Perilous[1] is the title of a recent volume in which Professor Hooke has collected nineteen papers contributed by him to various publications or read to various learned societies over the past twenty-five years—in other words, during the period of his editorship of the *P.E.Q.* The title (which will be recognized by students of the Arthurian legend) is that of the first study in the volume (the Presidential Address delivered to the Folk-Lore Society

[1] S.C.M. Press, London, 1956. 264pp. 21s.

in 1936); the sub-title of the book makes the nature of the contents more explicit: " Essays in Biblical Anthropology and Kindred Subjects ". The author points out that some of the earlier contributions represent positions which he no longer holds; it is evident that he did not stop thinking when he was appointed to his Chair in London University! The titles of some of these studies are obviously and directly relevant to the objects of the *P.E.Q.* (*e.g.*, " Archaeology and the Old Testament "; " A Century of Biblical Archaeology in Palestine "; " The Mixture of Cults in Canaan "); but our readers will find much of absorbing interest in all of them.

A second season of excavations at Hazor was begun in July last and finished at the end of October. Dr. Yigael Yadin, the director of the excavations, gave an illustrated lecture on these most recent excavations to a large and interested audience at the rooms of the Palestine Exploration Fund on December 19. He also contributed two articles on the same subject to *The Illustrated London News* of December 1 and 8. The excavations have supplied further evidence of Hazor's importance in Canaanite and Israelite times alike. They have brought to light the first Hebrew inscriptions from the period of the monarchy ever to be found in Galilee. Among inscribed objects there is one of special interest—a winejar which bears the letters *LPQḤ* (" Pekah's ") and *SMDR*, i.e., *semadar*, a Hebrew word occurring three times in the Song of Songs (ii, 13, 15; vii, 13), translated " tender grape(s) " in A.V. and " (grape) blossom " in R.V. and R.S.V., but here obviously denoting some kind of wine. Whether the Pekah to whom the jar belonged was the king of that name or not, ample evidence was discovered of the destruction of Hazor at the end of Pekah's reign by Tiglath-pileser III (*cf.* 2 Kings xv, 29). Some time before that the city had clearly suffered some damage from an earthquake, possibly the earthquake of Amos i, 1 (*cf.* Zech. xiv, 5). Artistic objects were found belonging to various periods of the city's settlement, including a number of cultic objects from the Canaanite city. Outstanding among the latter was a cult standard, " the greatest prize of the season's excavations ". The end of the season left the archaeologists with several exciting problems on their hands, and we hope that next season will bring the solution of some of these.

From the Israel Exploration Society we have received Vol. IV of *Eretz-Israel*, a collection of archaeological, historical and geographical studies, dedicated to President Ben-Zvi to mark the fiftieth anniversary of his settling in Palestine. The studies are in Hebrew, with summaries in English. Dr. Yadin's article on " Gideon's Javelin and the ' Menor Orgim ' ", which appeared in the *P.E.Q.* for April, 1955, is published here in Hebrew; so is Dr. Glueck's account of " The Third Season of Explorations in the Negeb " which appeared in English in *B.A.S.O.R.*, April, 1955. Dr. A. Malamat discusses " ' Prophecy ' in the Mari Documents ", comparing the *muḫḫum*

or diviner of " prophetic " texts from Mari with the Hebrew prophet. In spite of obvious dissimilarities, he finds parallels between them such as do not exist between the Hebrew prophet and any other type of divine messenger in Mesopotamia, " in their consciousness of intuitive divination and in their ability to achieve divine revelation without resorting to mechanical mantic devices ".

Dr. Malamat has also published in the *Bulletin of the Israel Exploration Society* a study of *Chronicles of Chaldaean Kings*, recently edited by Mr. D. J. Wiseman; he finds in them a number of contacts with the biblical record. Thus, Nebuchadrezzar's conquest of Ashkelon in December, 604 B.C., provides the historical background for the fast of Jer. xxxvi, 9 ff.; Jehoiakim's revolt against Nebuchadrezzar may be connected with Nebuchadrezzar's unsuccessful Egyptian campaign of 601–600 B.C.; the deportation of 3,023 Jews (Jer. lii, 28) followed immediately upon his capture of Jerusalem in his seventh year, while the main deportation (2 Kings xxiv, 14–16) took place in his eighth year; the oracles of Jer. xlix, 28–29, are related to the events of Nebuchadrezzar's sixth and ninth years.

Among much interesting information given in *Les Annales Archéologiques de Syrie*, tomes iv et v (1954–55), is a report by Professor C. F. A. Schaeffer on the eighteenth campaign at Ras Shamra (October–December, 1954). In the course of this campaign the remains of an oven for baking clay tablets came to light. This is the first discovery of such a kind ever made. Although cuneiform tablets have been found in abundance during the past century, no one up to 1954 had come across an oven for baking these tablets and no mention has been found in any cuneiform text describing the process of baking them.

If Dr. Solomon Zeitlin is unable to convince us that the Qumran texts are mediaeval and throw no light on the closing period of the Second Temple, he does at least play the part of a Socratic gadfly, stinging us into fresh examination of the evidence on which we have based our conclusions. So long as we have the *Jewish Quarterly Review* as our mentor, we shall be in little danger of complacent acquiescence in the verdict of the majority. If, even so, we remain persuaded by the arguments for an early date for the texts, our persuasion will be all the firmer because we have had to pay such careful and repeated attention to Dr. Zeitlin's case. His earlier arguments were summed up earlier in 1956 in a *J.Q.R.* monograph, *The Dead Sea Scrolls and Modern Scholarship*; and he has returned to the attack in the July issue (" The Dead Sea Scrolls: A Travesty on Scholarship ") and again in two articles in October (" Revealing Data on the So-Called Discovery of the Dead Sea Scrolls " and " Recent Literature on the Dead Sea Scrolls "). In both these October articles he maintains that it is the duty of the American Schools

of Oriental Research to publish the Hebrew text of the copper scrolls from Cave 3 without delay, but surely this appeal is directed to the wrong address?

Another article in the *J.Q.R.* for October 1956, by Oskar K. Rabinowicz, reviews " The Shapira Forgery Mystery "—not that there is any mystery about it, as he says, but because it was so described in *The New York Times* of August 13. It is, in any case, useful to have the story told again, if only because the same kind of expert examination which quickly established the spuriousness of the Shapira fragments has established the genuineness of the Qumran documents. Professor Menahem Mansoor, of Wisconsin University, has lately tried to discover the present whereabouts of the Shapira forgeries. Mr. Rabinowicz says: " If it should be possible to prove . . . that these fragments are textually similar or in some parts even identical with certain scrolls discovered since 1947 at Qumran, then a mystery of unparalleled importance would be woven round the latter, and thus justify to a great extent what Professor Zeitlin of Dropsie College, Philadelphia, has been claiming about the Dead Sea Scrolls on the basis of internal evidence." We await the results of such a comparative study with equanimity. Thus far no one seems to have detected features of Hebrew spelling in the Qumran scrolls which (as happened with the Shapira documents) could only be due to dictation by someone who followed the Ashkenazi pronunciation!

RECENT DISCOVERIES AT PETRA

By Peter J. Parr

Introduction

During the six months July to December, 1954, the Department of Antiquities of the Hashemite Kingdom of the Jordan was engaged in work of conservation at Petra[1]. The main task was the partial rebuilding of the embankment wall which runs along the south side of the Wadi Musa near the Monumental Gateway, where, as elsewhere in Petra, the flood waters of the stream every year do an enormous amount of damage. At the same time a considerable quantity of debris was removed from around the Gateway, so that the base of this monument, together with what little remains of the paved street leading up to it, was restored to view. About fifty metres east of the Gateway a flight of steps leading down from the paved street to a wadi-side footpath was also cleared. There is no doubt that a great deal of such clearance could be done at Petra, with great profit both to the archaeologist and to the tourist[2].

In the course of this work several pieces of sculpture and many architectural fragments were unearthed, and it is the purpose of the present paper to draw attention to these[3]. The most important of them came from the debris round the foot of the Monumental Gateway and its associated structures. The collapse of the wadi embankment wall at this point had left exposed an archaeological section which showed beyond doubt that the debris was the result of the final destruction of these monuments after a period of abandonment, represented in the section by a layer of sterile sand[4]. The date of the collapse is unknown, of course, as is the date of the construction of the Gateway; but in view of the continued prosperity of Petra for more than a century after its incorporation into the Roman Empire[5], it seems reasonable

[1] I am indebted to Mr. G. Lankester Harding, Director of Antiquities, both for giving me the opportunity of working at Petra and for allowing me to publish some of the finds here. I must also thank Dr. B. S. J. Isserlin and Mr. W. Llewellyn Brown for many helpful suggestions.

[2] It is understood that the work is, in fact, being continued this year (1956) by the Department of Antiquities.

[3] It should be pointed out that the writer is neither an art historian nor a classical archaeologist, and that any suggestions made in the course of this paper are at the most very tentative, and designed to draw criticism rather than to claim acceptance.

[4] This section was drawn, and will be published elsewhere.

[5] Petra was annexed in 106 A.D., and twenty-five years later the emperor Hadrian visited the city. But as late as 221–222 A.D. the place was important enough to receive the status of *colonia*, as is shown by coins of Elagabalus published by Stella Ben-Dor (*Berytus* IX (1948–9)).

to suppose that these latest public buildings date from not before the 2nd century A.D. The importance of such a *terminus post quem* for the sculptures will be seen later.

The opportunity is also taken here of publishing some other architectural and sculptured fragments from Petra, many of them found by Mr. and Mrs. G. Horsfield during their work there[1]. A few of these pieces have previously been published; references are given in the appropriate places.

Sculptures from the Destruction Debris of the Monumental Gateway

1. *Bust of a God* (Plates I, A and B; II, A and B)

The bust is of limestone and measures 1·00 m. high and 0·85 m. broad. It is in excellent condition apart from some slight damage to the nose and beard. The upper part of the head is sculptured in the round, but the rest of the head and shoulders are attached to a massive block of stone which, from its shape, seems to have formed part of the topmost course of a wall. The use by the Nabataeans of such semi-detached high reliefs as architectural elements is already known from the discoveries at Khirbet Tannūr[2]. It seems to have been a practice borrowed from the East, where it is often found in Parthian architecture, for example at Hatra[3].

Despite its evident debt to Western art, the bust exhibits strong oriental elements, especially the stylized treatment of the hair and beard, which, as Avi-Yonah has pointed out, is an artistic convention of great antiquity in the East[4].

The closest immediate parallel to the bust is the Zeus-Hadad statue from Tannūr, published by Glueck[5], and there can be little doubt that the Petra relief also represents a deity. The wreath of laurel round the head, the twisted sceptre behind the left shoulder, and the nobility of expression, all point to this conclusion. But whether the deity represented is Hadad or not must remain uncertain. A statue from the Hauran which exhibits many similar features has been described as a figure of Dusares[6]. But perhaps the most striking resemblances to the Petra bust are to be found in several Egyptian figurines of Serapis, especially in a small terracotta of Ptolemaic date from Canopus[7]. Despite the differences in material and size, this is remarkably like the Petra figure in expression and posture. The spread of

[1] *Q.D.A.P.* VII (1938), VIII (1939), and IX (1942). I am indebted to Mr. Horsfield for permission to publish these fragments.

[2] Glueck, *B.A.S.O.R.* 65 (1937), p. 16.

[3] Andrae, *Hatra*, vol. II, Pl. XIX–XX, and pp. 157–160.

[4] My indebtedness to M. Avi-Yonah's important study, *Oriental Elements in the Art of Palestine . . .* (*Q.D.A.P.* X, XII, and XIV), will be apparent throughout this paper.

[5] *Other Side of Jordan*, p. 188, fig. 119.

[6] Virolleaud (quoting Dussaud) in *Syria*, vol. V (1924), p. 51, and Pl. XX, 2.

[7] Breccia, *Mon. de l'Égypte Gréco-Romaine*, vol. I, Pl. XXXVI, no. 8.

the worship of Serapis and other Egyptian deities throughout the Mediterranean world during Hellenistic and Roman times is a well-known fact. At Petra itself, the Khazne is considered by some to have been a temple to Isis; while Kraeling has recently published a Hellenistic gem from Syria which portrays the jugate heads of Isis and Serapis, the god wearing a crown of laurel leaves surmounted by a lotus bud[1]. Serapis was, moreover, essentially a funerary deity, the worship of whom would not be out of place among the Nabataean mausolea of Petra[2]. The attribution of this newly discovered bust to the Egyptian god may not, therefore, be too fanciful.

2. *Winged Head.* (Plate III, A and B)

The head is 0·52 m. high and 0·40 m. broad, and, though largely sculptured in the round, was originally attached to a block of stone forming part of a building, from the wall of which it would have projected.

The oriental features of this head are much more pronounced than are those of the previous bust (no. 1, above). The fullness of the face and the treatment of the eyes bring to mind the mould found at Petra by Miss Margaret Murray, and dated by her to about the beginning of the Christian era[3], and are also reminiscent of the Hellenistic bronze head from the Yemen, now in the British Museum, and variously attributed to the Nabataean or to a South Arabian civilisation[4]. The tight curls can be paralleled in sculpture from all over the East: from Palmyra[5], from Persepolis in the Achaemenid period[6], and from many sites in Assyria[7]. Examples of side-whiskers are found within the Nabataean kingdom at Tannūr (very like the present example), at Bostra (less close), and at Petra itself[10]. Further afield the only parallels known to the present writer occur in Egypt, on a statue of Ptolemy IV (222–203 B.C.) and on coins of the same ruler[11], and at Dura, in the mid-first century A.D.[12].

It is impossible to say for certain whom this head is supposed to represent, though again it is most likely to be of some deity. The two small wings sprouting from the top of the head suggest a god with affinities to, if not

[1] *Archaeology*, vol. 8, no. 4, pp. 256–7, and fig. 6.

[2] See Černy, *Ancient Egyptian Religion* (1952), pp. 136ff., for the cult of Serapis.

[3] *A Street in Petra* (1940), pp. 30–1, and Pls. XXXIX–XL.

[4] *Ibid.*, pp. 31–2 and Pl. XLI; *B.M. Quarterly* XI (1937), p. 153.

[5] Champdor, *Les Ruines de Palmyre*, pp. 27, 42, 48, 138, etc.

[6] Herzfeld, *Persepolis* I, Pl. 98; *Iran in the Ancient East*, Pl. LXI.

[7] *Louvre Encyc. Phot. de l'Art*, I, pp. 303, 307, 313, etc. *Cf.* also the remarks of Avi-Yonah, *Q.D.A.P.* X (1944), pp. 115–6.

[8] Avi-Yonah, *op. cit.*, p. 115, and Pl. XXII, no. 5.

[9] Butler, *Princeton Arch. Exped. to Syria*, (1919) IIA, p. 250, fig. 223.

[10] Horsfield, *Q.D.A.P.*, IX, p. 161, no. 250.

[11] Breccia, *op. cit.*, p. 60 (no. 13), and Pl. XXVI, no. 4.

[12] *Excavations at Dura-Europos*, Vth Season (1934), pp. 50–2, Pl. XV.

identical with, Hermes; and we shall see later that there is more evidence for the worship of this god here at Petra.

3. *Winged Tyche* (Plate IVA)

The figure is carved in high relief on a block of limestone measuring 1·00 m. high, 0·95 m. broad, and 0·66 m. thick. The wings are largely obscured by the cornucopia in the left hand and the palm branch in the right. The face may have been deliberately damaged.

Glueck found several Tyche and Nike reliefs at Tannūr, and suggested that they came from a frieze round the walls of the Inner Temple (early 2nd century A.D.). The Petra figure may have come from the Monumental Gate itself. It is more accomplished in execution than, for example, the Tyche on the side of an altar from Tannūr[1], and is more like two reliefs of Nike from the Hauran, the one from the Roman Gate at Si' [2], and the other from the Nabataean temple at Saḥr[3], both dated by Butler to the 2nd century A.D. It is unfortunate that the reliefs on the Khazne are too badly worn for instructive comparison to be made with this newly discovered figure.

4. *Relief of Hermes* (Plate IVB)

This figure, in high relief on a block of stone 0·65 m. high and 0·88 m. broad, is much damaged, the head being completely destroyed, perhaps deliberately. The drape of the cloak and the clasp on the right shoulder recall the " Helios busts " found at Qaṣr Rabbah and el-Mesheirfeh, and dated by Glueck to the 1st or early 2nd century A.D.[4]. The most interesting feature of the present relief, however, is the representation behind the right shoulder of the *caduceus*, the symbol of Hermes. Amongst other things Hermes was god of wealth, patron of roads, and protector of merchants, and it would not be surprising if, in the later stages of their history, the Nabataeans, famed as caravan operators, borrowed this deity from the classical pantheon, and worshipped him in their capital city.

Sculptured and Architectural Fragments from the Central Area

The following fragments were found in various parts of the Central Area of Petra by Mr. and Mrs. G. Horsfield. Some of the photographs taken by them at the time are now in the library of the University of London Institute of Archaeology[5], and are particularly valuable for the brief notes sometimes

[1] Glueck, *Other Side of Jordan*, p. 193, and fig. 123.

[2] Butler, *op. cit.*, p. 417.

[3] *Ibid.*, p. 442, fig. K.

[4] *A.A.S.O.R.* XIV (1934), fig. 16; *Other Side of Jordan*, p. 194, and fig. 124.

[5] I am indebted to Mr. Horsfield and the Director of the Institute of Archaeology for allowing me to use these photographs, and to Miss G. C. Talbot, Assistant Librarian, for much help.

appended describing the original provenance of each fragment. During the recent work of the Department of Antiquities the pieces were re-studied and photographed, and were then buried for safety, until such time as a home can be found for them, perhaps in the contemplated Petra museum.

5. A and B. *Eros and Lion Reliefs* (Plate V, A and B)

These two panels, of yellowish limestone, each measure 1·60 m. by 0·62 m. by 0·30 m. One of them, no. 5A, has been published several times before, and the relief has been variously interpreted as Eros harnessing two winged lions, with two snakes rising from the ground behind[1]; Hercules standing between two winged lions and strangling two snakes[2]; or Eros subduing the two lions by binding their paws[3]. Domaszewski suggests that the panels formed part of the intercolumnar balustrade of some building, while Wiegand would have them as a frieze above the entrance to the main hall of the Gymnasium, this being the name given by him to the large building opposite the Monumental Gateway, on the north side of the Wadi Musa[4].

6. *Relief of Winged Snakes* (Plate VIA)

This is a fragment of a larger relief, and shows the upper part of a *caduceus*, the intertwined snakes having wings. It provides additional evidence for the worship of Hermes at Petra. According to the Horsfields, it was found " behind the Small Temple ", by which is meant the building south-west of the Monumental Gate.

7. *Shoulder of a Winged Figure* (Plate VIB)

This fragment is carved on part of a building block 0·89 m. long, 0·42 m. high, and 0·45 m. thick. It must once have formed part of a large mural relief. It was found by the Horsfields in the roadway east of the Monumental Gate, and may have come from the same group of buildings as did the fragments described in the first part of this article.

The treatment of the feathers of the wing is somewhat similar to, though less crude than, the treatment of those of the Tannūr eagle-and-serpent sculpture, belonging probably to the first part of the 2nd century A.D.[5].

8. *Shoulders of a Female Figure* (Plate VII A)

The relief is in the half-round, the back of the stone being flat. The head is missing; pick marks on the broken surface suggest that the damage

[1] Brünnow and Domaszewski, *Die Prov. Arabia* I, pp. 178, 319 ff., and fig. 348.

[2] Dalman, *Petra*, pp. 355 ff., figs. 324–5.

[3] Wiegand, etc., *Ver. des deutsch-türkischen Denkmälschulz Kommandos*, Heft 3 (1921), p. 67, fig. 59.

[4] On the subject of the winged lion motif see C. Simonett, *Die geflügelten Löwen aus Augst* (1944), especially pp. 41 ff.

[5] Glueck, *A.A.S.O.R.*, XXV–XXVIII (1951), pt. 1, fig. 79.

was deliberate, the result either of iconoclasm or of the re-use of the block in a later building. Apart from the robe draped across the body, the only items to be noted are the two twisted cords, presumably from a headdress, which fall on each shoulder. There is no knowledge of the original provenance of this fragment.

9. *Part of the Relief of a Warrior* (Plate VII B)

The surviving portion of this panel measures 0·89 m. by 0·50 m. by 0·34 m. thick, and comes from "the Palace colonnade to east"—presumably the building just east of the Gymnasium on Wiegand's map[1]. The figure seems originally to have had flowing locks, and there are suggestions also of both a helmet and a shield. The face is much damaged; the fact that the spears are, by contrast, in such very good condition, suggests again that this is an example of early Muslim iconoclasm.

10. *Relief of Eros with Pomegranate (?) Branch* (Plate VIII A)

A photograph of this has previously been published by Wiegand[2]. The motif is reminiscent of that of the decoration in the Painted House at el-Barid[3], but otherwise little can be said about it.

11. *Four-Headed Capital* (Plate VIII B)

This was found originally behind the "Small Temple" south-west of the Monumental Gate. It is 0·58 m. square at the base, and 0·48 m. high, and has a Medusa head rather coarsely carved on each side. Such heads are fairly common throughout the Roman world; local examples come from the Nabataean temple at Saḥr (probably 2nd century A.D.)[4], while others are in the museum at Soueïda, and were compared by Dunand to the sculptured masks from Hatra[5].

12. *Nabataean Capital "A"* (Plate IX A)

Only half of this capital exists; it may well be a pilaster cap. It is of pinkish sandstone, and its overall dimensions are 0·90 m. by 0·45 m. by 0·32 m. There is nothing remarkable about the capital itself; it is of classic Nabataean style, and can be paralleled on any number of rock-cut monuments, both at Petra and el-Hegra. Its discovery, however, serves to remind us of what is too often forgotten, namely, that the Nabataean architectural order

[1] *Op. cit.*, Annexe I. The references to the provenances of the various fragments are all taken from the notes on the Horsfields' photographs, unless otherwise stated, and the location of monuments is based on that of Wiegand.

[2] *Op. cit.*, p. 48, fig. 42.

[3] Horsfield, *Q.D.A.P.* VII, pp. 21 ff. and Pl. I. For the latest discussion of the Painted House decoration, see Glueck, *B.A.S.O.R.* No. 141 (Feb. 1956), pp. 13–23.

[4] Butler, *op. cit.*, p. 443, figs. 387 and 388D.

[5] Dunand, *Le Musée de Soueïda* (1934), p. 67, and Pl. XXI, nos. 133 and 135.

was probably used at Petra as much for free-standing as for rock-cut monuments. It is impossible, of course, to say whether this particular capital belonged to a building erected after 106 A.D., or to some earlier structure[1].

13. *Nabataean Capital "B"* (Plate IX B)

This capital (again a free-standing one) is a variant of the usual Nabataean type; parallels can be found on the Palace Tomb and on the Deir. At el-Hegra only two examples seem to occur, flanking the doorway of one of the latest tombs[2]. The present example is probably one of two found by the Horsfields, one in the "Middle Market", and the other "east of the Palace substructure".

14–17. *Miscellaneous Capitals.* (Plates X, XI)

These four capitals are typical of many to be found at Petra, both lying among the ruins of the former city, and still *in situ* on the large rock-cut tombs.

No. 14 (X A) is of Schlumberger's "Normal" Corinthian type, which, according to him, spread into Southern Syria and Arabia at the time of the Roman penetration[3]. The capital was found in the "Lower Market".

No. 15 (X B) is similar to capitals on the Khazne and, further afield, on the East arch at Bostra, described by Butler as the "compound Nabataean" type[4]. According to Wiegand, it comes from the front of the Palace[5]. (It is possible that no. 15 is a column base, rather than a capital, of the type found at Si' on the Temple of Ba'al Shamīn (33–32 B.C.)[6]. If so, it would be the only one so far found at Petra.)

No. 16 (XI A) is a good example of Schlumberger's "heterodox Corinthian" style, with vegetation motifs[7], and may be compared with capitals on the Monumental Gate and the Khazne. No. 17 (XI B), a pilaster cap from the Palace, has already been discussed by Ronczewski, who is inclined to date such winding tendril decoration to the Imperial period[8].

18. *Capital with Mason's Mark* (Plate XII)

This is similar in style to no. 16 above. Its special interest lies in the mason's mark incised on its upper surface. According to Mr. T. B. Mitford

[1] It may be worth noting here that among the Horsfields' unpublished material in London there is a photograph of a free-standing capital of the Nabataean "volute" type, such as is found at Petra on, for example, the Palace Tomb and Deir, but which is far more typical of the Hegra architecture. The close resemblance of these volute capitals to some from Ptolemaic Egypt has been pointed out by Ronczewski, *Arch. Anz.* (1932) I/II, p. 88 and fig. 37.

[2] Jaussen and Savignac, *Mission Arch. en Arabie* (1914), Pl. XLVII, no. 1.

[3] *Syria*, vol. XIV (1933), pp. 316–7.

[4] Butler, *op. cit.*, Pl. X.

[5] Wiegand, etc., *op. cit.*, p. 70, and fig. 61.

[6] Butler, *op. cit.*, Pl. XXVIII and illust. 325.

[7] Schlumberger, *op. cit.*, p. 288.

[8] *Arch. Anz.* (1932) I/II, fig. 33, and p. 80.

(who has most kindly examined the photograph), the mark is a square-topped *rho*, such as was common during the Imperial period, this particular example being possibly of Severan date. This provides welcome confirmation of the dating on stylistic grounds of Corinthian capitals of this kind, and emphasizes the fact that as late, possibly, as the early 3rd century A.D. monumental building was being carried out at Petra.

19. *Column Base* (Plate XIII A)

Several parallels to this column base can be found in Roman Syria and Transjordan, for example at Umm edj-Djemal (Praetorium, 371 B.C.)[1], Bostra (colonnaded street)[2], and Umm es-Surab[3]. Butler considers this type of moulding to be most common in Roman buildings of the 2nd century A.D.[4].

Miscellaneous Fragments

The remaining pieces of sculpture, etc., have been discovered in and around Petra on various occasions, but are here published, so far as is known, for the first time. The first two (nos. 20 and 21) were acquired by Mr. Suleiman Shubash, manager of the Petra Hotel, from the local Beduin, and I am grateful to him for letting me see them.

20. *Winged Head* (Plate XIII B)

The head is carved on a flat slab of sandstone 9·5 cms. thick. The style exhibits definite oriental elements, for example the regularly falling locks, the drooping mouth, and the fleshy cheeks and brow, and one is reminded strongly of the head described above (no. 2, page 7). The resemblance may, indeed, be more than coincidental, for the small wings sprouting from behind this small head suggest that here, too, we have a representation of the Nabataean Hermes.

21. *Small Female Head* (Plate XIV A)

This is one of the rare marble pieces discovered at Petra. It is very badly worn, perhaps by the action of water; it has probably been retrieved from a wadi-bed. The workmanship seems to have been of a fairly high standard, and is entirely western in spirit. The head is broken across the top, but enough remains to show the hair tightly pulled back, leaving the ears exposed. The back of the head has been left unworked; it is impossible to say whether this means that the statue was unfinished, or that the head was part of a high relief rather than of a free-standing figure.

22. *Part of a Marble Statue* (Plate XV A)

This lower half of a life-sized female figure is now standing at the foot of

[1] Butler, *op. cit.*, p. 161.
[2] *Ibid.*, p. 235.
[3] *Ibid.*, p. 95.
[4] *Ibid.*, p. 95.

GRACE M. CROWFOOT MEMORIAL FUND

Molly Crowfoot died on 20th March, 1957, at her home in Norfolk. As the wife of J. W. Crowfoot, she shared in the life and activities of a devoted educational administrator in Egypt and in the Sudan, who subsequently became Director of the British School of Archaeology in Jerusalem. A wide circle of friends will remember her in both spheres. A brilliant student of many archaeological subjects, especially of ceramics and textiles, and an acute observer of folklore and natural history, her fund of knowledge was at the service of all. She was an enthusiastic teacher and colleague, and inspired gratitude and affection in those with whom she came in contact.

The last years of her life were spent in unremitting labour on the third volume of the report on Samaria, where she had excavated with her husband. Those of us who have been in close touch with her feel that many friends would wish to express their gratitude and affection in some way which would give her pleasure, and nothing would have been dearer to her heart than the early publication of Samaria–Sebaste III, threatened at present by delay owing to sharply-rising costs. Despite generous contributions already received, a substantial sum has still to be found.

We, the undersigned, can think of no more suitable tribute to her memory than a fund to achieve this purpose. Donations may be sent to: Miss O. Tufnell for Grace M. Crowfoot Memorial Fund, c/o Barclays Bank, 108, Queen's Gate, London, S.W.7.

Awad Satti
R. D. Barnett
John M. T. Barton
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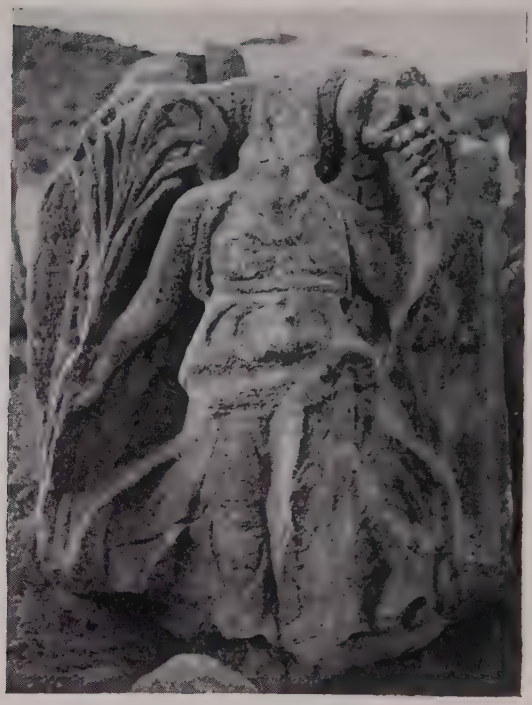
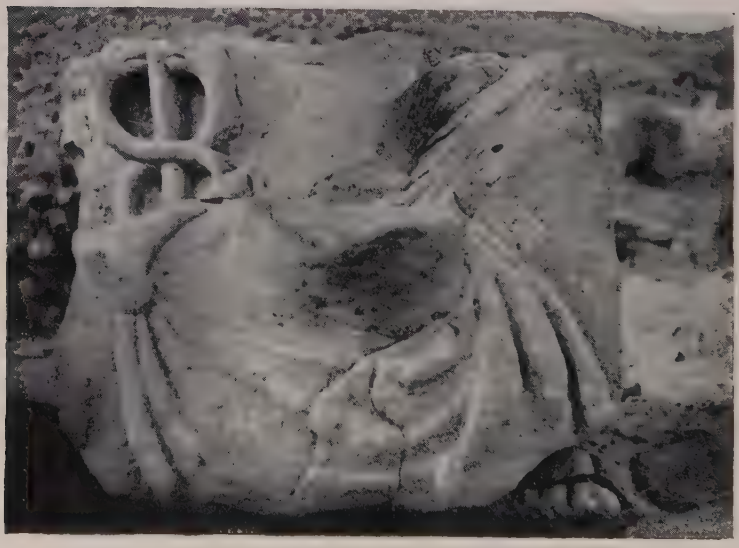
Cheques should be made payable to Grace M. Crowfoot Memorial Fund, and forwarded to Miss O. Tufnell, c/o Barclays Bank, 108, Queen's Gate, London, S.W.7.

A and B. Bust of a God.

A and B. Winged Head.



A. Winged Tyche.



B. Relief of Hermes.

A and B. Eros and Lion Reliefs.

A. Relief of Winged Snakes.

B. Shoulder of a Winged Figure.

A. Shoulders of a Female Figure.

B. Part of the Relief of a Warrior.

A. Relief of Eros with Pomegranate (?) Branch.

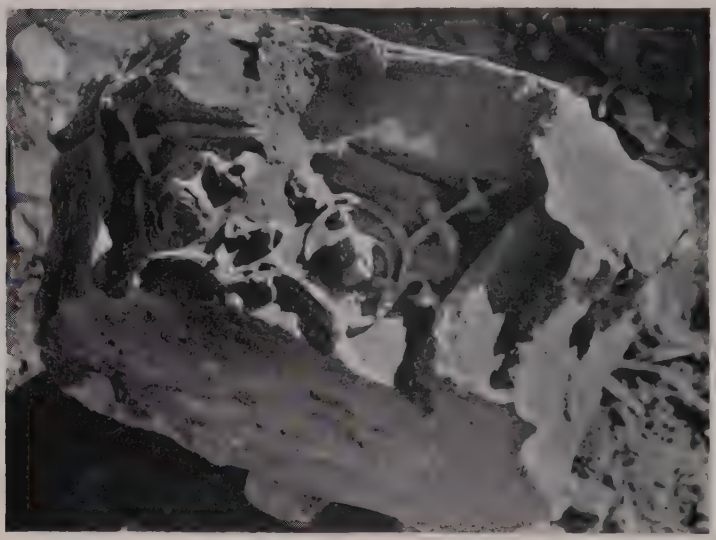
B. Four-Headed Capital.

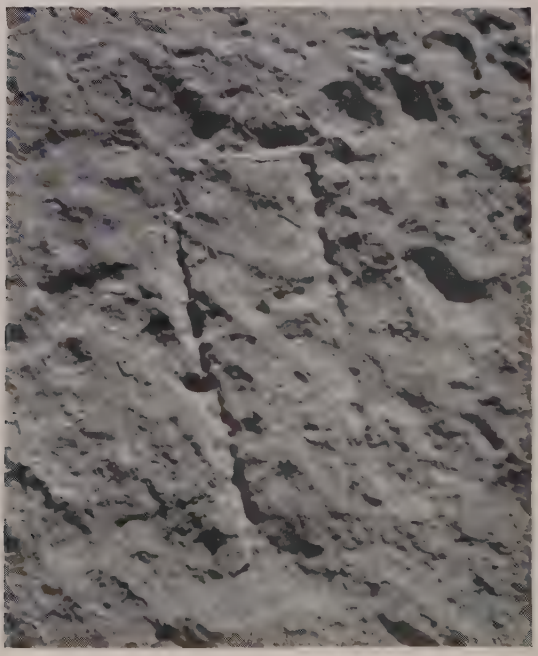
A. Nabatæan Capital " A ".

B. Nabatæan Capital " B ".

A and B. Miscellaneous Capitals.

A and B. Miscellaneous Capitals.





Capital with Mason's Mark.

B. Winged Head.

A. Column Base.

A. Small Female Head.

B. Carved Stone from Es Sabra

A. Part of a Marble Statue.

B. Inscribed Altar.

the stairway leading up el-Habis, and must have been seen by many visitors to Petra, though it does not seem to have been published before. It is of white marble, and must almost certainly be an import[1]. According to Mr. Shubash, the statue was found at a spot on the north bank of the Wadi Musa, near Wiegand's Palace. The only piece of sculpture from Petra at all comparable is the fragment of a marble figure from near the Gymnasium, published by the Horsfields[2].

The figure is very similar to a statue from Palmyra, described by Ingholt as a " replica of the so-called ' petite Halicarnasaise ', a type which in Roman times was very popular for portrait statues, not only in Rome itself and in Greece, but also in the African provinces "[3]. Ingholt suggests that the Palmyra statue is a portrait of the empress Julia Domna, dating from about 200 A.D. This Petra example may well be of the same period, if not of the same subject[4].

23. *Carved Stone from es-Sabra* (Plate XIV B)

This fragment of a carved lintel comes from es-Sabra, just south of Petra, where there is a true *tell* of Nabataean and Roman remains. It is too worn to be very informative, but the foliate decoration is reminiscent of the Nabataean style of the Hauran[5], and, indeed, of the Painted House at el-Barid.

24. *Inscribed Altar* (Plate XV B)

The present whereabouts of this altar is not known. It was found by the Horsfields " on the flat top behind the north slope of the Wadi Musa . . . opposite Kasr el-Bint ". A photograph exists in the library of the London Institute of Archaeology, and plate XV B is an enlargement of this.

The altar is of common Roman type (an undecorated example was found

[1] The nearest source of marble to Petra is Qaṣr Hamra, near Amman, but this marble is of an inferior quality and not white. (I owe this information to Mr. John Strugnell.)

[2] *Q.D.A.P.* IX, p. 165 (no. 276) and Pl. XVII.

[3] Ingholt, *Berytus* III (1937), pp. 124 ff.

[4] Since this was written, Mr. Llewellyn Brown has studied the photograph of this statue, and states that he sees no reason to think it of other than Hellenistic date. Even if it were a Roman adaptation of a Hellenistic type, he would not like to put it as late as the time of Julia Domna. An early date for the piece would, of course, greatly increase its importance for the study of Nabataean history and culture, though the possibility that the Romans brought to Petra an already antique piece of statuary must not be overlooked. See, for these statues, Horn, *Weibliche Gewandstatuen.*

[5] Butler, *op. cit.*, pp. 269 ff. In this connection, however, one must be careful not to over-emphasize the exclusively Nabataean nature of such decoration, as Butler seems to do. This decorative style, and especially the use of the figured vine scroll, is widespread in Asia Minor (*e.g.*, at Aphrodisias) right through the Imperial period; and it has been found also at, for example, Leptis Magna in N. Africa, where it may well be the result of a direct connection with the Eastern Mediterranean. *Cf.* Ward Perkins, *J.R.S.* XXXVIII (1948), pp. 32 ff.

lying in the wadi near the Monumental Gateway), and has on the upper part a much worn relief of the head of a kind of god, perhaps a Semitic Zeus. By the side of the head is what seems to be a twisted sceptre, very similar to that featured on the bust of a deity, no. 1 above (page 6). The inscription below the relief is extremely difficult to make out, especially in the absence of a squeeze. It has been examined by Mr. T. Bruce Mitford, and I am greatly indebted to him for suggesting the following reading:

Δϊὶ Ἁγίω
·ωτικῳ
Δευσαρι [?]
· ··· ·
· ··· · ·

While the first line is fairly clear, the second is puzzling, and the third very doubtful. It could just possibly read Καίσαρι instead of Δευσαρι, though the second and third signs, in so far as they survive, are against this reading. In Mr. Bruce Mitford's opinion the lettering could well be a cursive of late 1st or 2nd century date.

References to Zeus Hágios are known from elsewhere in the Semitic world, for example at Tripolis in Phoenicia during the Imperial period[1].

25. *Bronze Statue*

Sometime during the early part of 1954 one of the Beduin of Petra discovered a damaged bronze statue lying among the oleander bushes in the bed of the Wadi Siyagh, about an hour's walk from el-Habis. The statue is of an equestrian female figure, just under life size, probably representing Diana or an Amazon. It must have been washed down the wadi from the central area of Petra by winter spates similar to those which, more recently, removed its covering of sand and stones and exposed it to view. The statue has now been acquired by the Department of Antiquities and is in the museum in Amman. In view of its great importance it will be the subject of a special study by Mr. J. H. Iliffe.

Conclusion

Anything approaching a comprehensive account of Nabataean art and architecture will only be possible when a great deal more work has been done, not only at Petra itself and the Nabataean sites in the Hauran, but also on the innumerable *tells* in southern Jordan and the Negeb where surface finds indicate Nabataean occupation. The chief need is for more excavation; and the recent work of the American Schools of Oriental Research at Dhiban,

[1] Cook, *Zeus*, vol. I (1914), p. 192, and vol. III (1940), p. 945. (I am indebted to Mr. Bruce Mitford for drawing my attention to this reference.)

where stratified Nabataean remains have been found[1], is an encouraging indication of what can be accomplished.

The sculptures and architectural fragments discussed above do, however, throw some light on Nabataean civilization and history. From the chronological point of view, the importance of the pieces lies in the fact that they point to a fairly late date for most of the building activity, the remains of which are to be seen today on either side of the Wadi Musa[2]. So far as can be judged from the parallels cited above, most of the fragments date from between the late first and the early third centuries A.D.; though it must be admitted that few of the parallels themselves are securely dated other than on stylistic grounds. The epigraphic evidence of nos. 18 and 24, however, strongly supports this conclusion, as does that of the coins of Elagabalus (see page 5, footnote 5, above), and the stratigraphical evidence, such as it is, relating to the fragments from near the Monumental Gateway. There thus seems little doubt that, far from bringing stagnation in its wake, the Roman occupation of Petra in 106 A.D. resulted (as Starcky has recently suggested[3]) in a cultural renaissance amongst the Nabataeans, the effects of which were felt at least until the Severan period. If our identification of the marble statue, no. 22, is correct, we may go further, and say that as late as the early 3rd century there still existed at Petra a community sufficiently prosperous and sophisticated to appreciate imported works of art of western style and make. It is possible, indeed, though this is no more than a guess, that Petra profited, as did so many other cities, from Septimius Severus' tour of the Eastern Provinces (including, perhaps, Arabia) in 199 A.D., during the Parthian Wars[4]. At this time both Sebaste and Tyre, for instance, were made *coloniae*, and other cities had fiscal privileges granted them; while everywhere the remains of imposing buildings of this date testify to a new period of prosperity under the African emperor and his Syrian wife. Petra may well have shared in this.

That the Roman renaissance at Petra was a true renaissance, and not just the imposition of an alien culture on a dormant people, is proved by the continued vitality of oriental artistic conventions in this work of the Imperial period. Some of these conventions have been pointed out above in con-

[1] W. Morton, *B.A.S.O.R.* No. 140 (December, 1955), p. 6.

[2] One need not go so far as to say, however, as do some, that there was no free-standing town at Petra prior to the Roman occupation. In several parts of the site there are indications of a prolonged Nabataean occupation, especially in the neighbourhood of the Monumental Gate itself, where the section referred to above (p. 5) revealed at least one, and possibly two, building levels earlier than that contemporary with the Gateway and paved street, and characterized by Nabataean painted pottery. The present writer hopes to publish elsewhere a study of the pre-Roman town of Petra, with special emphasis on those parts of the site most suitable for excavation.

[3] *Biblical Archaeologist*, vol. XVIII, No. 4 (1953), p. 106.

[4] S. H. Miller, in *C.A.H.*, vol. XII (1939), p. 17 f.

nection with the individual fragments, and there is no need to repeat what has already been said. The oriental tradition in art, of course, is something which never wholly disappeared from the Near East, and in Palestine it reasserted itself in the art of the Byzantine and Early Muslim periods. Its Nabataean aspect is well illustrated by the sculptures from Tannūr. There are, however, many features which distinguish the orientalizing art of Petra from that of Tannūr. Most strikingly, it is much less crude in execution. It is the art of a capital city, a metropolis, influenced by and catering for the tastes of a much more sophisticated clientele than must have existed in purely religious centres such as Tannūr. Nothing better illustrates the cosmopolitan nature of Imperial Petra than the fact that, in all probability, the walls which supported the sculptured head, no. 2 above, sheltered also the marble statue, no. 22. These latest finds illustrate with a new vividness the mingled strands in the cultural history of Petra and the Nabataeans, and draw attention to the need for a renewed effort to solve some of the problems they raise.

STONE AGE EXPLORATION IN JORDAN, I

By F. E. Zeuner
with the Co-operation of D. Kirkbride *and* Barry C. Park

In April, 1955, an exploratory survey was carried out of certain areas of that part of the Hashemite Kingdom that lies to the east of the Jordan. Its aim was to establish what kinds of Stone Age sites are to be found and if possible to single out some that will repay excavation in the future. The importance of the area in question as a link between Palestine and Southern Arabia and possibly Africa needs no stressing. In addition there is the problem of Stone Age occupation of tracts that are now desert. The survey was sponsored by the Central Research Fund of London University and benefited greatly from the help and advice of the Department of Antiquities, Amman, whose Director, Mr. G. Lankester Harding, afforded the necessary facilities to work in the Amman Museum, on its collections as well as on the material now collected. Included in this survey are several important sites previously discovered by Mr. Barry C. Park of the Range Development Department. The work is at present continued by Miss D. Kirkbride.

Only a few publications refer to this area, by Blanckenhorn, Doughty, Field, Germer-Durand, Harding and Stekelis, D. Kirkbride, A. Kirkbride and Harding, Mallon, Murray, Kennedy, Koeppel and Neuville, and Rhotert, which are quoted in the bibliography. The earliest mention of Palaeolithic tools (of Acheulian facies) is by Doughty in his *Arabia Deserta*.

In this report the sites are listed and preliminarily described in a presumed typological order.

It must be realised that the cultural terminology used is purely temporary and need not imply genetic relationship. Terms which indicate close correlation have been avoided. " Clactonian " and " Levalloisian " are used to indicate the techniques thus labelled. For the Upper Palaeolithic, Neuville's classification in six stages has been adopted. It has, incidentally, found favour with Miss Garrod also (1953). The Mesolithic is virtually synonymous with the Natufian and, so far as the lithic industries go, characterized by the presence of true microliths including the lunate. For the Neolithic-Chalcolithic group of lithic industries the term Tahunian has been retained, following Waechter's practice. This has been done with some misgivings, especially as Dr. Waechter informs me that he would prefer to drop the term altogether in view of the mixed nature of the type site. It is convenient, however, to use it for the time being, as it relieves one of the difficulty of distinguishing pre-pottery Neolithic, pottery Neolithic, and Chalcolithic in localities where stone equipment only has survived.

On the other hand, though many surface sites are discussed and no caves or rock-shelters included, it has been possible to elucidate the geological sequence of industries. In this respect, the sites near Khanasereh in the north,

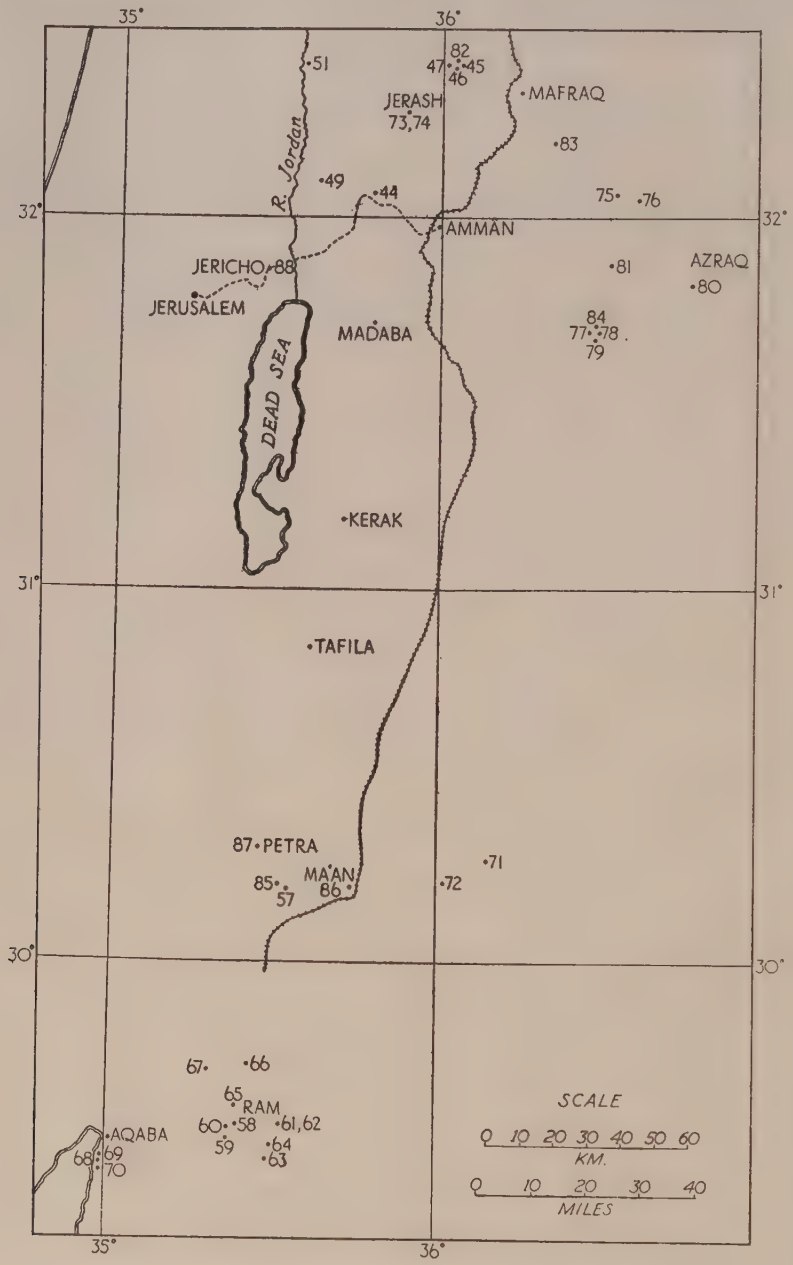


Fig. 1. For key to site-numbers, see p. 54

of Jafr in the pebble desert, and of the Red Sea Coast south of Aqaba have been important, and in the future Ma'an will have to be added.

The paper appears in two parts, the first containing the Palaeolithic and Mesolithic, and the second the Dhobaian, Tahunian and later industries, as well as the chronological summary. The geographical situation of the sites is indicated in fig. 1.

Abbevillian

Site 72, *Jafr-Ma'an.* (Grid ref. 257/963, Sheet 3). The plateau of black pebble desert between Ma'an and Jafr Oasis consists of a sheet of flint pebbles on a yellow sand which in turn rests at a shallow depth on soft chalk and marl with veins of chert, a formation belonging to the Belqa series which is transitional from the Cretaceous to the Eocene. The plateau is quite featureless, except for a few wadis that drain into the dry lake pan of El Jafr. They are cut into the general surface by a few feet only.

The origin of the Jafr pan is not yet understood. Whilst west of the railway line the Belqa series is involved in the tectonic upheavals connected with the formation of the Rift of the Wadi Araba, it extends without a visible dip eastwards to Wadi Sirhan. In this featureless surface the Jafr depression has been eroded. It measures about 10 kilometres from east to west, and about twice as much from north to south. Although the surface of the mud flat lies no more than about 15 metres below the general level of the pebble desert plateau, it has become the base level for the drainage of an area of over 10,000 square kilometres, the wadis flowing into it like the radii of a wheel, the hub of which is the mud flat. Denudation, almost certainly by wind, created the depression and has ever since kept it open.

The surface of the modern mud flat, which is periodically flooded, consists of a fine calcareous silt, with sporadic vegetation such as tamarisk shrubs, around which wind has accumulated silt and fine sand in heaps. Since this surface is usually dry and hard, it is not surprising that chert artefacts should be found in many places. These are mostly of microlithic size, but it must be remembered that they may have been brought in by floods that sorted out the smaller specimens. Near the margin of the mud flat a sheet of fine gravel (both limestone and chert) has been washed down on to its surface from the higher terraces. These formations are quite modern, though the artefacts may in part be derived from higher levels.

A gentle rise of about 5 metres leads up to a sandy terrace, evidently an ancient lake shore. On it lies the Police Post, after which this level is conveniently named. It is about half a kilometre wide and produces innumerable surface finds of artefacts ranging from unpatinated to patinated grey chert.

The next higher level rises another five metres and thus lies about 10 metres above the mud flat. Auda Abu Tayi's castle stands on it, hence it may be called the Castle Terrace. An important chipping floor, site 71, was found here; it will be described later on. On the surfaces of both the

Police Post and the Castle Terraces, grey gravel appears and there are plenty of calcareous concretions. Brown or black desert patination is absent. The Castle Terrace extends westwards for about eight kilometres and thus appears to represent an ancient lake floor rather than a shore. Its sandy gravel is only a few feet thick, and the Belqa Bed crops out in the wadi cuttings.

The Castle Terrace passes imperceptibly into the Pebble Desert level on the surface of which limestone fragments are extremely scarce and heavily corroded. Nearly all pebbles are of chert and (unless they are artefacts) their edges are rounded. Superficially they are almost black, grading into a dark brown, but the fresh break reveals a yellowish grey speckled with pinhead size spots of white. This type of chert is derived from the Belqa chalk; it was used locally through all prehistoric periods. The pebbles form a pavement on the surface of a sandy gravel of a depth of a few feet, the result of the removal of the fine constituents by the wind. It is thus evident that the Pebble Desert level has undergone a number of processes of alteration before the Castle Terrace was formed, namely (*a*) aeolian denudation with concentration on the land surface of the pebbles originally contained in the gravel, (*b*) formation of desert patination on the pebbles, and (*c*) the removal by solution of most of the calcareous pebbles from the surface. The processes (*b*) and (*c*) require some precipitation. That none of these three processes has operated effectively on the Castle and Police Post Terraces proves that these are very much younger. In addition, the absence of (*b*) and (*c*) from these terraces suggests that at some time between the formation of the Pebble Desert gravel (probably as a sheet of fluviatile gravel coming from the west) and that of the Castle Terrace, the climate was sufficiently moist to cause the removal of calcareous matter from the surface. This does not, however, imply a wet climate, though a cover of vegetation is probable.

About 12 kilometres east of the police post of El Jafr, on the middle track to Ma'an, lies site 72. There is an abandoned camp site here marked by limestone blocks. The pebble pavement in this neighbourhood yielded two industries of considerable antiquity, the older of which may be regarded as Abbevillian, the later as Clactonian.

Unlike the later industry (see below), the earlier agrees in patination and preservation of the surface with the pebbles constituting the pavement itself. The surfaces of the implements are pitted owing to removal of silica by solution, their edges are rounded, and their patination is intensely brownish black. They must, therefore, be regarded as contemporary with the gravel itself and as dating from the fluviatile phase that brought the pebble gravel to this spot.

The artefacts are large (c. 20-7 cm. long), and the industry is composed of both core tools and flakes. Many are exceedingly rough, mere flakes or cores with marks of use. Of 23 specimens of a more definite shape (fig. 2) one may be classified as a hand-axe, three as oval bifaces, four as coarse scrapers (" choppers "), three as concave scrapers, one as a core of boot-tree

shape from which longish flakes have been removed, six as coarse oval flakes, one as a pointed flake, and four as straight, long flakes. Their style of manufacture is entirely Clacto-Abbevillian, and there is no secondary retouch. Cortex is present on many of the specimens. It is because of the presence of several core-tools that this industry is here tentatively assigned to the Abbevillian (fig. 2).

Acheulian

Ma'an. The wadi bed at Ma'an was one of the two Palaeolithic sites described in *Arabia Petraea* by Doughty in 1875. He mentioned it briefly (1888, p. 35), figuring a hand-axe, an ovate, and a Levalloisian flake with a prepared striking platform. According to the caption, however, the three implements came from two different sites, one being the wadi bed at Ma'an, the other the " high land (flint) gravel of Mt. Seir ". Since Acheulian specimens have recently been recovered by Mr. Hasan Awad Qutshan in the wadi at Ma'an near the bridge, it may be assumed that the two pieces of Acheulian facies figured by Doughty were from this locality. This site will be studied in the near future.

Site 57, *Khatt-esh-Shibib.* The Khatt-esh-Shibib is a quartzite wall erected presumably to mark some tribal boundary. Its date is unknown. It extends from Wadi Ail about 15 kilometres west of Ma'an across hills and dales approximately in the southward direction to Ras Mu'eiqil. At the northern end, where we visited it, it is very dilapidated. In places its rough stone work stands a foot or two high, in others it is completely collapsed. In the sparse *Artemisia* steppe, however, it is easy to follow. The roads from Wadi Musa and from Sadaqa to Ma'an join about a kilometre east of the Khatt. Where it crosses the Sadaqa road, numerous flint artefacts are found, including one chipping site. These may be Neolithic, or later; there is no suggestion in their technique of a Palaeolithic age. The patination varies from nil to light brown but is not as heavy as on the Palaeolithic specimens to be mentioned in the next paragraph. To what extent these sites are connected with the wall remains to be investigated.

Where the Wadi Musa Road cuts the wall (Grid ref. 204/956, sheet 3), an Acheulian site occurs along the wall on the flanks of the wadi just south of the road, which was discovered by Mr. G. Lankester Harding. Whilst hand-axes and ovates of middle Acheulian type are frequent on the south flank up to the top of the hill, they are rather rarer on the northern. These are definite sites, for the areas in which the finds occur are restricted. On the other hand, cuttings made for the new road revealed that the bedrock occurs at a depth of a few inches, and that the sites are associated with a residual gravel, the geological position of which can no longer be determined. That the formation of the fluviatile gravel dates well back into the Pleistocene is, however, certain because of the great amount of denudation and erosion that has since taken place.

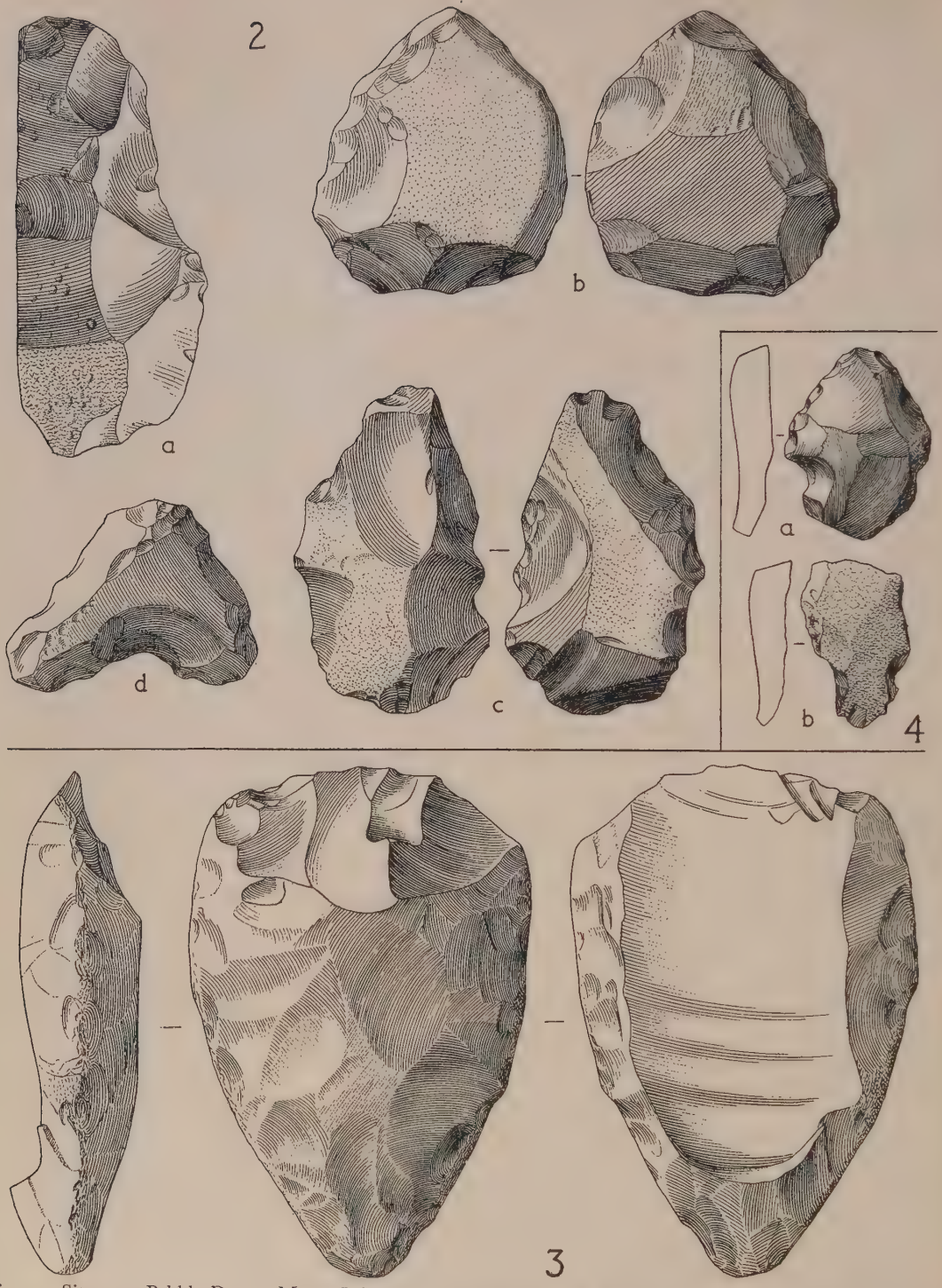


Fig. 2. Site 72. Pebble Desert, Ma'an-Jafr Road.—Abbevillian: (*a*) chopper, (*b*) oval biface, (*c*) hand-axe, (*d*) concave scraper. Fig. 3. Site 44. Shu'eib Bridge, Km. 37 from Amman to Jericho.—Acheulian hand-axe used as Levalloisian core. Fig. 4. Site 69. Aqaba.—Worked Palaeolithic flakes.—½ nat. size.

Site 74, *Jerash, Hadrian's Arch.* On the slope of the hill near Hadrian's Arch at the south entrance to the Roman city, Mr. Harding collected four hand-axes of middle Acheulian type, two of which are pointed, whilst two are almost ovates though with the narrower end thinned. More material, including limestone artefacts, was collected at this locality. It will be described by Miss Kirkbride in an article on the pre-Roman finds made in the Jerash district.

Site 44, *Shu'eib Bridge.* At Km. 37 of the road from Amman to Jericho, a little above the bridge across the Wadi Shu'eib (Grid ref. 219/152, sheet 1) a pre-pottery Neolithic site is exposed in the road section. Apart from flint implements, a plastered floor is observed which rests on a red soil mixed with gravel. In spite of its high position above the river the gravel appears to be the remnant of an ancient river terrace. At this point, Sir Alec Kirkbride found an Acheulian hand-axe which is now in the Amman Museum (reg. no. J.5263). It must have come from the buried land-surface on top of the gravel.

This hand-axe is of considerable interest (fig. 3). Made of mottled grey flint, it is heavily rolled and the edges worn in a manner characteristic of fluviatile abrasion. In the first instance, it must therefore have been incorporated in the river gravel. Subsequently, however, it was reworked. The edges thus produced are sharp and unabraded; hence the specimen was not subjected to river action thereafter.

The remarkable feature of the re-working is that the hand-axe was used as a Levalloisian core. A large flake was struck from the butt end. Subsequently, the butt-end was re-prepared by removing five short flakes, using the negative of the large flake previously removed as a striking platform. Thus, the bulbar portion of the former was trimmed away. This appears to have been an attempt to use the specimen as a core a second time, though this was not actually done. As it is, it would not have made a good core; the work may have been left uncompleted, and the specimen was discarded.

This unique specimen, therefore, illustrates how the Levalloisian technique of preparing cores may be based on an Acheulian tradition. Whilst in the case of the Wadi Shu'eib specimen there is a hiatus between the Acheulian and the Levalloisian shaping, European industries such as that of Baker's Hole in Kent may well be a Levalloisian immediately based on familiarity with the Acheulian technique, the latter being abandoned and the former adopted for climatic and ecological reasons.

Site 81, *Wadi el-Harith.* The upper part of Wadi el-Harith, a shallow depression west of El-Azraq which leads past the volcanic plateau of Jebel el-'Uweinid into the Azraq mud flat, contains a succession of qas or mud flats. In these several large water-holes have recently been dug under the Point IV programme, which made it possible to take a sample of the silt composing the mud flat (Grid ref. 290/150, sheet 1). An analysis produced interesting results.

The silt is reddish-yellow, fine and dusty, coherent in lumps, bedded, but unstratified within the beds, and full of rootlet holes. It resembles in every respect an ordinary loess. Mechanical analysis showed the presence of the following grain sizes (fig. 5):—

	per cent.
clay (less than 0·002 mm.)	30·0
silt (0·002–0·06 mm.)	67·8
sand (0·06–0·6 mm.)	2·2

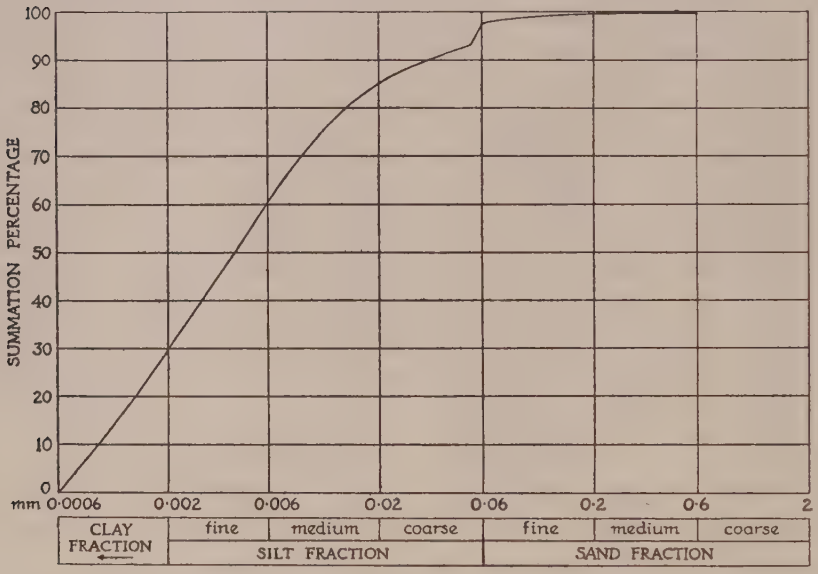


Fig. 5. Site 81. Wadi el-Harith.—Chart showing results of mechanical analysis and of loessic silt composing mud flat.

It should be noted that the curve shows a break near 0·06 mm., which is due to the presence of a comparatively large amount of plant debris of a specific weight of less than 1, which disturbs the diagram that is based on an assumed specific weight of the mineral particles of 2·65. Chemical analysis showed that about 3·8 per cent. (weight) of organic matter is present. The samples are rich in calcium carbonate (two samples, 27·7 per cent and 24·0 per cent. respectively). Of gypsum there is only a trace.

With 67 per cent. of silt, this material resembles a loess, though there are some differences. The clay grade is represented by 30 per cent., and the sand grade contains, apart from rounded quartz grains, a large amount of finely-divided vegetable matter. In addition, there are fragments of shells, as in ordinary loess. The differences suggest that this loess-like material has been deposited but recently. The vegetable matter has not yet disappeared completely, though enough of it has gone to give the material its porous texture

and the clay has not yet been coagulated by the lime present. For this to happen a slightly more humid climate would be favourable. Finally, the almost straight course of the curve is worth noting, for it suggests that the grains have not come from a great distance. Whilst this analysis confirms what can be observed, namely that the wind carries dust into the depressions where it is caught either by steppe vegetation alone or on the water when the flats are flooded, it also confirms that in this manner a loess-like sediment is formed. The aeolian origin of the European loess, which plays such an important part in Palaeolithic chronology, is thus here illustrated from a modern desert area.

Not far from these excavations, Mr. Park found a new Palaeolithic site. Its geological position was studied and a typological interpretation of the tools attempted on, and following, a joint visit to the site by Miss Kirkbride and Mr. Park.

The site lies at and around the second of three water-holes dug under Mr. Park's direction in Wadi Harith (Grid ref. 295/145, sheet 1). The water-hole is situated in the centre of the wide wadi bed, in a qa. Just south of it the wadi begins to narrow.

The floor of the wadi is carpeted here and there with grey pebbles, but the top layer of the water-hole is the loessic material described above, an aeolian silt deposited in ponded water. It has been cut through by a recently-formed seyl (torrent-bed) draining into the dug-out and which has exposed, at a depth of 25-50 cm., a pebble pavement with an abundance of bifacial pebble-tools and flakes. Apart from the artefacts found here *in situ*, there are others with a later type of patination that appear to have been washed down from the surface.

A search was made in the area of the water-hole, and bifacials and flakes were found all around it, as well as in the dump of earth resulting from the digging of the hole. It was not possible to recover indubitable artefacts *in situ* here. The surface finds studied by Miss Kirkbride, however, exhibit the same proportion of bifacials to flakes as those from the seyl bed:—

	Seyl Bed	*Surface*
Bifacials	106	60
Flakes	86	53
Cores	5	1
	197	114

The bifacials (fig. 6) are mostly very rough ovates, and some of the less regular ones might be classified as chopping-tools (Movius's term) or cleavers. Others tend towards a hand-axe shape and grade into pointed hand-axes, though these are infrequent. The majority of the flakes appear to have been made from prepared cores. It remains to be seen whether this assemblage is comparable with the " Acheulian-Jabrudian " described by Rust from Jabrud in Syria.

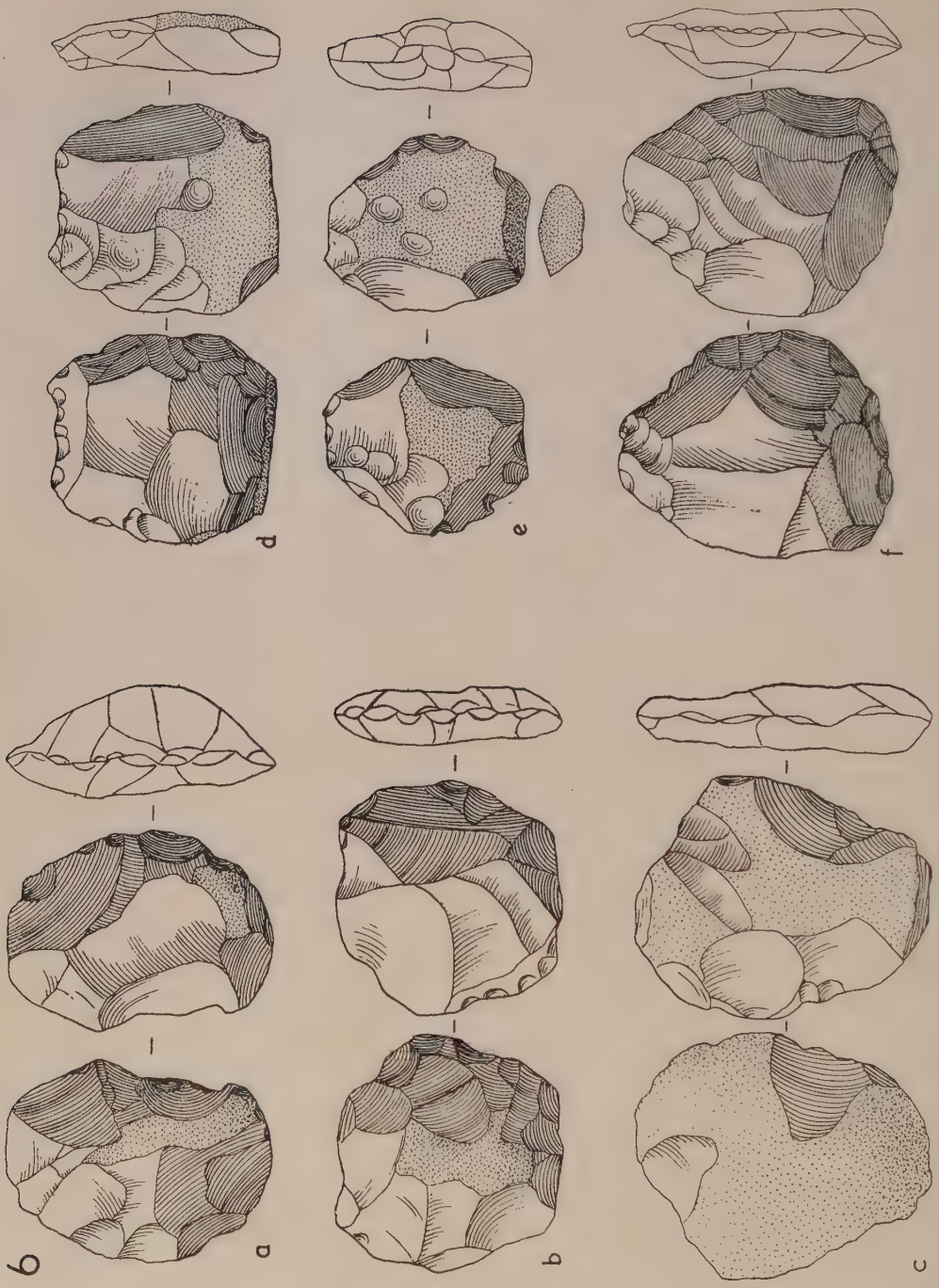


Fig. 6. Site 81. Wadi el-Harith.—Core tools:—Rough ovates, bifacial chopping tools. ½ nat. size.

Petra

Hand-axes of the Acheulian type were found at Petra by Dr. Margaret Murray (1940) and Sir Alexander Kennedy (1925). This area is now being surveyed by Miss Kirkbride and the finds will be described in a separate article.

Clactonian and Tayacian

Site 72, Jafr-Ma'an Road. The site itself has been described on p. 19. Apart from the Abbevillian (and a small number of sub-recent flakes) there is another definite industry present which, by European standards, is best classified as Clactonian (fig. 7).

This industry was made from the patinated flint pebbles exposed on the surface. There are remnants of the blackish desert patination on many of the specimens. The flaked surfaces are of a lighter colour, which may be described as a dirty chocolate-brown, and corrosion has only begun to pit them slightly as can be seen under a lens. Their pitting and the colour are due to the same processes that altered the older series, but they have been active for a much shorter period of time. The edges of the younger series are slightly dulled, as is the case with most flint implements from the Palaeolithic of Europe.

Apart from flakes made by the Clactonian technique and exhibiting no special features, 88 specimens were classified, as follows (fig. 7).

There were 72 flake tools, and 16 core tools. The flake tools comprised 27 straight scrapers, eight round scrapers, five concave scrapers, 14 notched flakes, six points, four blade flakes, and eight irregular used flakes. All these were basically simple Clactonian flakes with unprepared platforms and a wide flaking angle. The points were not of the Mousterian type, since intentional retouch is absent. In one artefact the two edges that converge to a point both bear evidence of use.

Of the core tools, some of which were made on very thick flakes, four are unifacial choppers, six bifacial chopping tools, and one is a point on a core (fig. 7a), reminiscent of similar specimens found at Clacton-on-Sea. The remainder are small cores of which it is doubtful whether they ever served a purpose.

This industry is reminiscent of the Tayacian I of Oum-Qatafa (Neuville, 1951, p. 31) in which the preparation of the platform is "rudimentary". But it is in several respects characteristically Clactonian. Both concave scrapers and notched flakes are frequent and suggest that wood was worked with these tools. Points on cores are characteristic of Clactonian sites in Europe. There is no evidence of the preparation of the platform, though it must be mentioned that seven flakes were found that showed it. But their patination was less intense than that of the industry under discussion, for which reason they were excluded. It is distinguished from European assemblages by the relative abundance of choppers and chopping tools

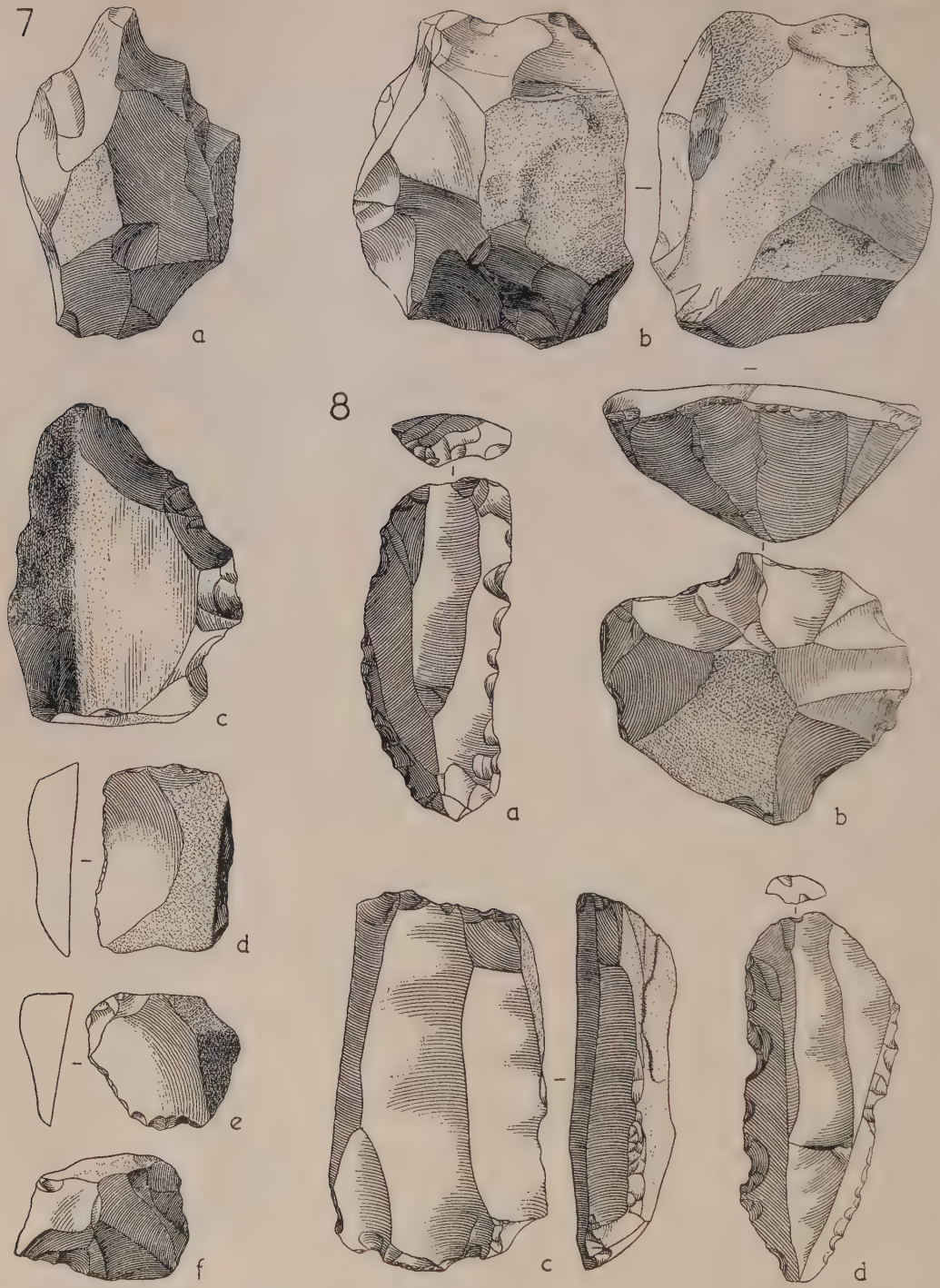


Fig. 7. Site 72. Pebble Desert, Ma'an-Jafr Road.—Clactonian: (*a-c*) core tools, (*d-g*) flake tools. Fig. 8. Ail.—Transitional Upper Palaeolithic: (*a*), (*d*) heavy blade scrapers, (*b*) tortoise core, (*c*) semi-cylindrical blade-core.—½ nat. size.

which, however, are not absent in Europe. Altogether, in view of the small number of tools counted, too much importance should not be attached to numerical proportions. It is an industry essentially Clactonian rather than Tayacian in character.

Site 76, *Qa el-Mukheizin* (Grid ref. 299/160, Sheet 1). At this site, to be described in Part II, a chipping floor of dark brown patinated flints occurs on top of the hill about 300 yards west from the tip of the peninsula. Many cores are associated with a dense carpet of flakes. The implements were made from still older battered flints of blackish brown patination, some of which resemble Harrisonian eoliths. The industry is Clactonian both in the cores and many of the flakes, though striking platforms are often small and the angles not widely open. The edges are coarsely retouched, producing scrapers of all sorts. In addition one flake with a prepared striking platform was found, and several which had been struck from prepared cores, though the platform itself was unprepared. This industry, therefore, exhibits Tayacian affinities.

The position of the site is characteristic. It is confined to the level plateau some 10 metres above the surface of the qa. The Clactonian of Site 72 was similarly found on a pebble-covered plateau, but this was geologically older as it comprised the Abbevillian. There are several other sites where a Tayacian-like heavily patinated industry occurs on a plateau, without descending into the valley where the less patinated and typologically younger industries are found. The presence of these old flake industries on the plateau levels thus assumes a chronological significance.

Site 75, *Corral* 3 (Grid ref. 294/160, Sheet 1). This site lies a few miles west of the preceding, on the lava plateau which is about five metres above the floor of the extreme western end of Qa Khanna. It will be discussed in detail in Part II. Here again, on the plateau level, but not below, coarse and heavily patinated flakes occur. Their striking platforms are unprepared, and their rough edges represent scrapers. There is also a fragment of what appears to have been a biface.

Site 78, *Kharaneh II, top level* (Grid ref. 290/126, Sheet 1). This site, to be described in Part II, also yielded coarse, heavily patinated flakes on the top level (which is continuous with that on which the castle stands, but about a kilometre to the south). There are again scrapers, and waste flakes. The edges are slightly sharper than those of the material from the preceding site, but comparing them with the later industries they have to be classified here.

Site 70, *Aqaba* (Grid ref. 146/872, Sheet 3). Leaving Aqaba in the southward direction, following the coast of the Red Sea, granite mountains occur for about five kilometres. The granite is intensely shattered tectonically, which explains the enormous talus fans that issue from the valleys. There is no beach, so that wave activity appears to be negligible, and the talus continues below sea-level where corals grow on its surface, forming reefs. At the present-day, therefore, coral limestone is forming up to low-water mark,

containing a varying amount of angular talus, and passing to the landward into talus without limestone. The height of the sea-level is thus indicated by the highest limestone bank contained in the talus gravel. This observation can be used to recognize fossil shore-lines.

About five kilometres from the Shell Tanks the first remnant of a terrace level appears (Site 69), and thence southward there are fossil and Recent talus fans alternating with terraces of coral limestone, which form a pediment to the granite mountains that recede slightly inland. At Site 69, only a few flakes (fig. 4) were found among the very coarse gravel and large boulders. Here as elsewhere along this coast heat-fracturing is very intense, and the chances of survival of large artefacts like hand-axes, exposed on the surface, are slight. Many boulders are sliced, and flint nodules are broken into fragments still more or less in position. Desert patination is thick and brownish-black. Any industry found, therefore, is not likely to have been exposed on the surface for a very long time, the exposing agency being the wind which removes the sand and grinds down the soft limestone until a desert pavement is formed.

South of Site 69 there follows a large delta protruding into the sea. It is, however, not entirely composed of Recent sediments, for both on the north and the south sides banks of cemented talus appear, proving the presence of a more ancient delta.

South of the delta, about seven kilometres from the Shell Tanks, yet older deltaic formations form horizontally bedded, flat-topped hills about 10–15 metres high (Site 68). Towards the sea they are composed of fossil coral limestone with a scattering of talus on top. Inland this scattering becomes thicker and develops into a normal talus fan. We are, therefore, here faced with an earlier delta of the same structure. On its surface, flaked flints are not infrequent. The flint nodules from which they were made occur in the talus gravel. Evidently, man took advantage of the presence of these pebbles in an area otherwise very deficient in good raw materials and visited the gravel fans to collect them. The implements found range from dark specimens with desert patination to fresh ones with dull surfaces, and in one place fresh spalls around a block of granite proved flaking in virtually modern times. Typologically, the patinated implements are rough scrapers on flakes, and a few blade-flakes. One hand-axe-like specimen of dull white flint may or may not belong to this early group.

Continuing south along the coast, a small promontory of coral limestone is passed which is about six metres high. It has at the base a ledge of coral-limestone a few yards wide, between the cliff and the sea, which is about three metres above sea-level. It is possible that this represents a separate terrace indicating a former sea-level about three metres higher than the present.

Eight kilometres south of the Shell Tanks there is a distinct sequence of terraces of coral limestone (Site 70). There are three levels, and the surfaces

are covered with granite talus. A wadi section makes measurements possible. The lowest level abuts against the middle with a cliff, and the highest occurrence of limestone is 8·4 metres above the present sea-level (disregarding tides). The talus on it attains a few feet more.

The middle level is well developed and the desert pavement on it almost unbroken. Its highest measurable point is 14·2 metres above sea-level, but this figure is probably too low on account of the desert pavement that can have formed only by denudation with consequent loss in height.

The highest level, at 24 metres, is much dissected and has suffered considerably from denudation. It is evidently much older than the other two. Yet higher levels, or rather pavement-capped hillocks, exist farther inland but were not visited. These several fossil beaches extend a few kilometres southwards.

A few flint artefacts were found on the 24 and eight metre levels. On the middle terrace, however, there were many, and one concentration was found that suggested a flaking site. These flints all have the dark desert patina. Most of them are coarse and made by the Clactonian technique. One, however, had a prepared striking platform (fig. 13b), and the industry is best classified as Tayacian in the widest sense. That the site is contemporary with the fossil talus on the limestone is probable, for it has the same patination.

It may be that this industry represents a beach-combers' site, of people who came to the sea-shore when this beach-level was forming and the Red Sea some 14 metres or more higher than the present, and that the rough implements were used to open shells. Even to-day, fishermen bring large shells ashore (*Tridacna*, *Strombus*) and open them in exactly the same relative position. There were several fossil shell fragments in the terrace.

A brecciated flint occurs here as in other sites, and several specimens have the same dark patination as the other flints. One neatly-struck flake, however, has not, and similar fresh-looking flakes occurred at Site 68. This group, therefore, is much younger than the patinated group.

In spite of the meagre harvest of implements, these terraces have been described in some detail, since they provide a tentative means of dating. In a country where the chronology of the Palaeolithic is still in its infancy, every means has to be treated with care. Along this coast, two well-preserved beaches occur, at 8 and 14 (+) metres, which are well-preserved. The next higher level, at 24 metres, is much more eroded and denuded, and a long period of erosion and denudation appears to have intervened between this and the two lower levels. If this interpretation is correct, it becomes conceivable that the two lower levels represent the fossil beaches of the Last Interglacial. This interpretation is further substantiated by the presence of the 3 metre ledge previously mentioned, which could be correlated with the Epimonastirian beach of Europe and the Mediterranean (Zeuner, 1953). The presence of a Tayacian industry on a Last Interglacial beach would be in keeping with the European evidence. But it must be stressed that this

correlation is based on the proviso that no tectonic displacement of beaches has occurred on this coast since the Last Interglacial. This is an assumption which, though not inconceivable, is not easily accepted in the Red Sea Rift. As is discussed elsewhere, however, there is other evidence pointing to a Last Interglacial age of the Tayacian of Northern Arabia.

Site 82, *Irbid Road* (Grid ref. 250/203, Sheet 1). On the main road between Mafraq and Irbid, near Km. 89, on the Khanasereh track about 100 yards south, the hillside is strewn with flints. On this surface site smaller tools predominate on the lower part of the slope, whilst the larger types are more frequent higher up. If the finds are regarded as one industry, it would essentially be a Tayacian. It resembles closely the industry of Et-Tabun, Layer G, of Miss Garrod (1937, pl. 47, p. 89). The sample of our industry comprises 85 specimens selected for their potential interest. Many ordinary utilised flakes had to be left behind to save weight. The proportion of tools other than utilised flakes, therefore, is proportionately higher than at Tabun. Among the more elaborate implements some striking parallels are observed. Every category distinguished at Tabun is present, except for points, of which however Garrod had only one in her larger material. There are coarse burins, one 10·5 cm. long is a double ended type, one end being an ordinary bec-de-flute, the other a re-sharpened single-blow (fig. 9f). The second is a polyhedric graver 5·5 cm. long. It could almost be classified as a beaked burin. In the scraper group, there are eight flakes, the edges of which have been retouched steeply. In addition, there are five classifiable as steep scrapers on the narrow end of a flake, and two of the characteristic end-bulb type (fig. 9i). An element which appears to be absent at Tabun is the small nosed scraper, or point between two open notches (fig. 9l). This grades into steeply retouched blunt points, which suggest that the point, and not the notches, was the working part. These double-notch nose-scrapers are frequent in Clactonian assemblages, including Clacton-on-Sea itself, where they are, however, larger. One of the utilised long flakes resembles closely Garrod's figure 10, the tip being converted into a scraping end by steep retouch. There are three unifacial heavy flakes that may be regarded as choppers, and one convex-edged chopping-tool with bifacial preparation.

The cores show that both the Clactonian technique and a certain amount of preparation of shape and platform were practised. Accordingly, the striking-platforms of the flakes are unprepared and open or, more frequently, show two large facets. The following types have been distinguished:—

Cores		5
	prepared 3	
	Clactonian 2	
Utilised flakes		46
Notched flakes		4
Straight scrapers on flakes		8

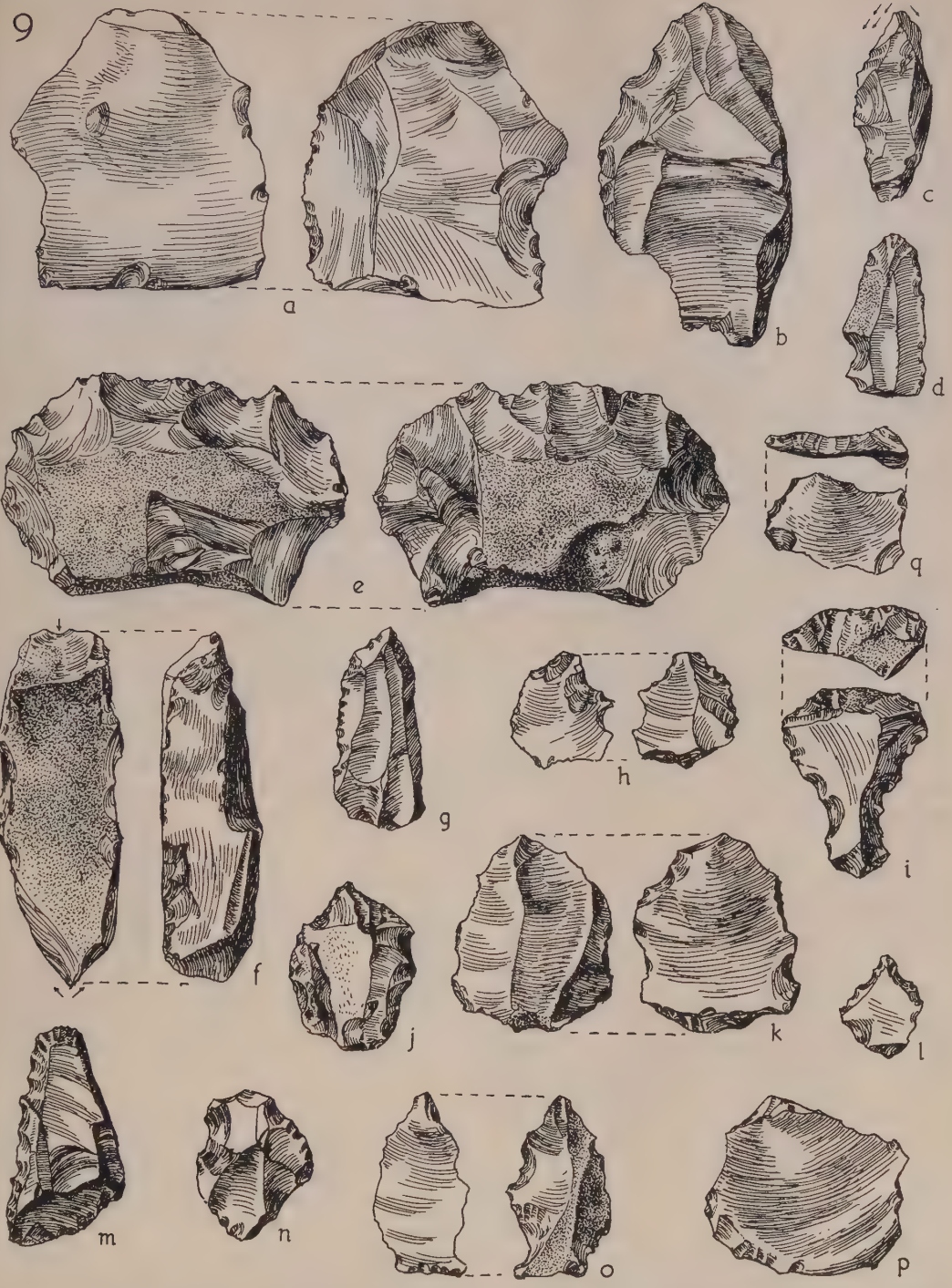


Fig. 9. Site 82. Irbid Road, Km. 89.—Tayacian: (*a*) " Clactonian " flake, side-scraper on left, hollow scraper on right, (*b*) steep scraper, (*c*) polyhedric burin, (*d*) end-scraper, (*e*) chopping tool, (*f*) double burin, angle top-end, bec-de-flute lower end, (*g*) utilised flake, (*h*) double-notch nose scraper, (*i*) end-bulb scraper, (*j*) steep scraper, (*k*) scraper (scraping angle over 90°), (*l*) small nosed scraper, (*m*) end-cum-side-scraper (*n*) convex-cum-concave scraper, (*o*) utilised flake (double hollow scraper ?), (*p*) broad plunging flake used as scraper, (*q*) flake with prepared striking platform.—½ nat. size.

Steep scrapers on narrow end	7
ordinary 5	
end-bulb 2	
Nosed scrapers on biconcave flakes ..	7
Burins	2
Choppers	3
Chopping-tool	1
Utilised fragments	2
	85

The Irbid Road industry shows affinities also with those of Oum-Qatafa, levels G_2 and F-E_3, classified by Neuville (1951) as Tayacian I and II respectively. The most striking difference appears to be the scarcity of secondary preparation of the flakes at Oum-Qatafa, and the somewhat more elaborate preparation of the platform in layer E_3.

Of the six sites here enumerated as Clactonian or Tayacian, i.e. as a Lower Palaeolithic flake industry that is not Levalloisian or Mousterian, Sites 72, 76, 75 and 78 suggest an age prior to the last great period of erosion. Site 70 is connected with an ancient shoreline possibly of Last Interglacial age. Assuming that, for reasons to be discussed in Part II, the last period of erosion represents the Mediterranean pluvial of the Last Glaciation, the five sites would be older than this. The sixth site, No. 82, cannot be dated geologically.

The industries to be described in the following paragraphs, are all geologically younger than the Clactonian-Tayacian, at least in so far as geological evidence is available.

Levalloisian and Levalloiso-Mousterian.

Khanasereh, Site 45, *Cistern Site.* This site lies about a mile north of the Range Management Demonstration Camp near the village of Khanasereh. It was discovered by Mr. Park, who found that both hillsides are literally covered with millions of artefacts. In the floor of the valley, there is a rock-cut cistern lined with cement of the Roman type. There are two chambers, whose roofs have collapsed. Only the east hill was studied in detail, since several trial trenches afforded sections.

The hill top is bare limestone with beds of flint. These were the main source of raw material supply, and the good quality and abundance of the flint probably explains this large factory site. Evidence of knapping can be found at the outcrops on top of the hill as well as lower down the slope, but not where the soil becomes substantial.

There is some soil on the slope. About halfway down it is about 30 cm. deep, light brown, and containing lumps of limestone as well as of flint. No artefacts were found in the sections. The soil belongs to the rendzina

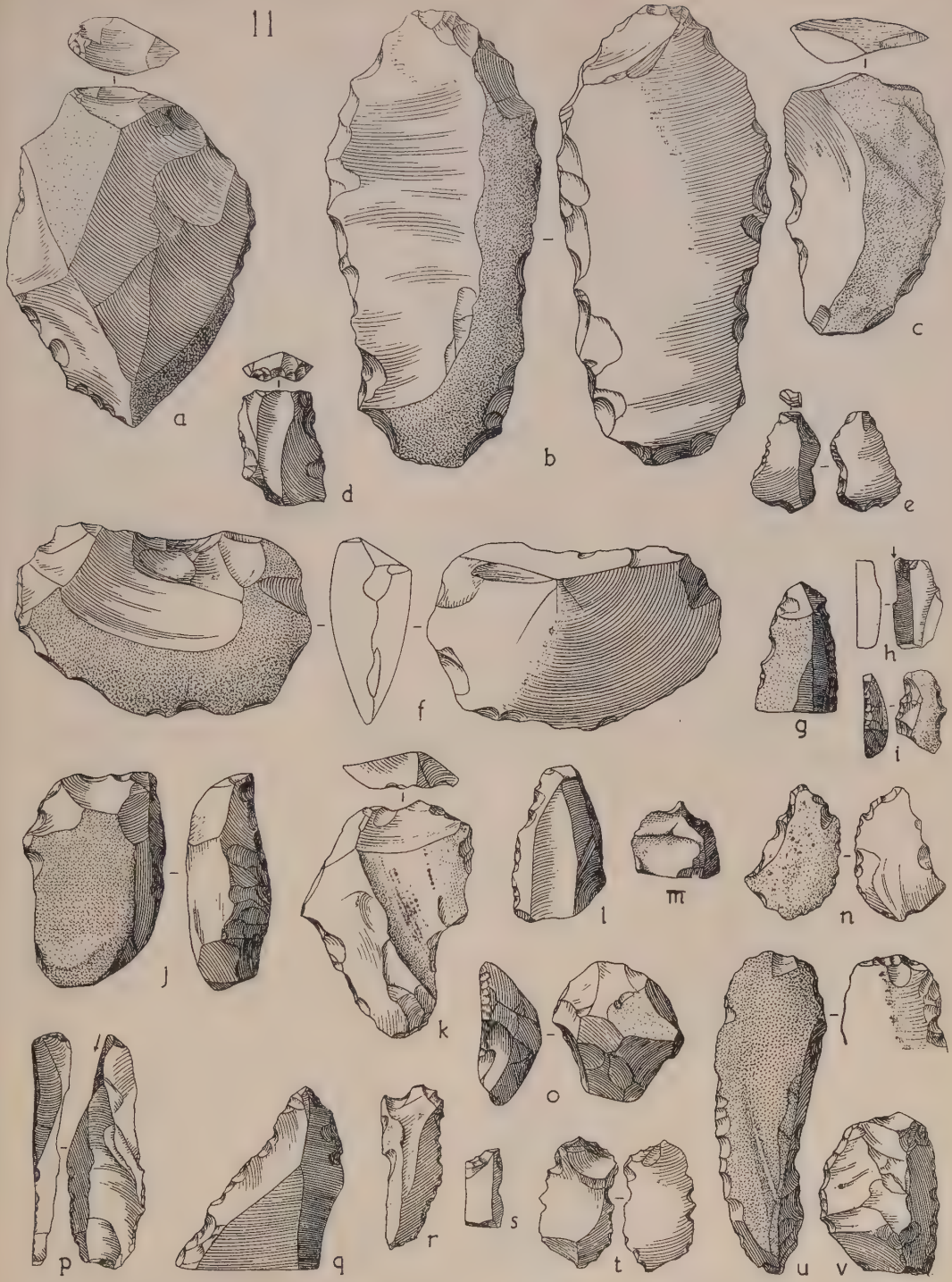


Fig. 11. Site. 47. Wadi Blak, Khanasereh.—Levalloiso-Mousterian: Implements from the Cemented Gravel, *in situ*.—½ nat. size.

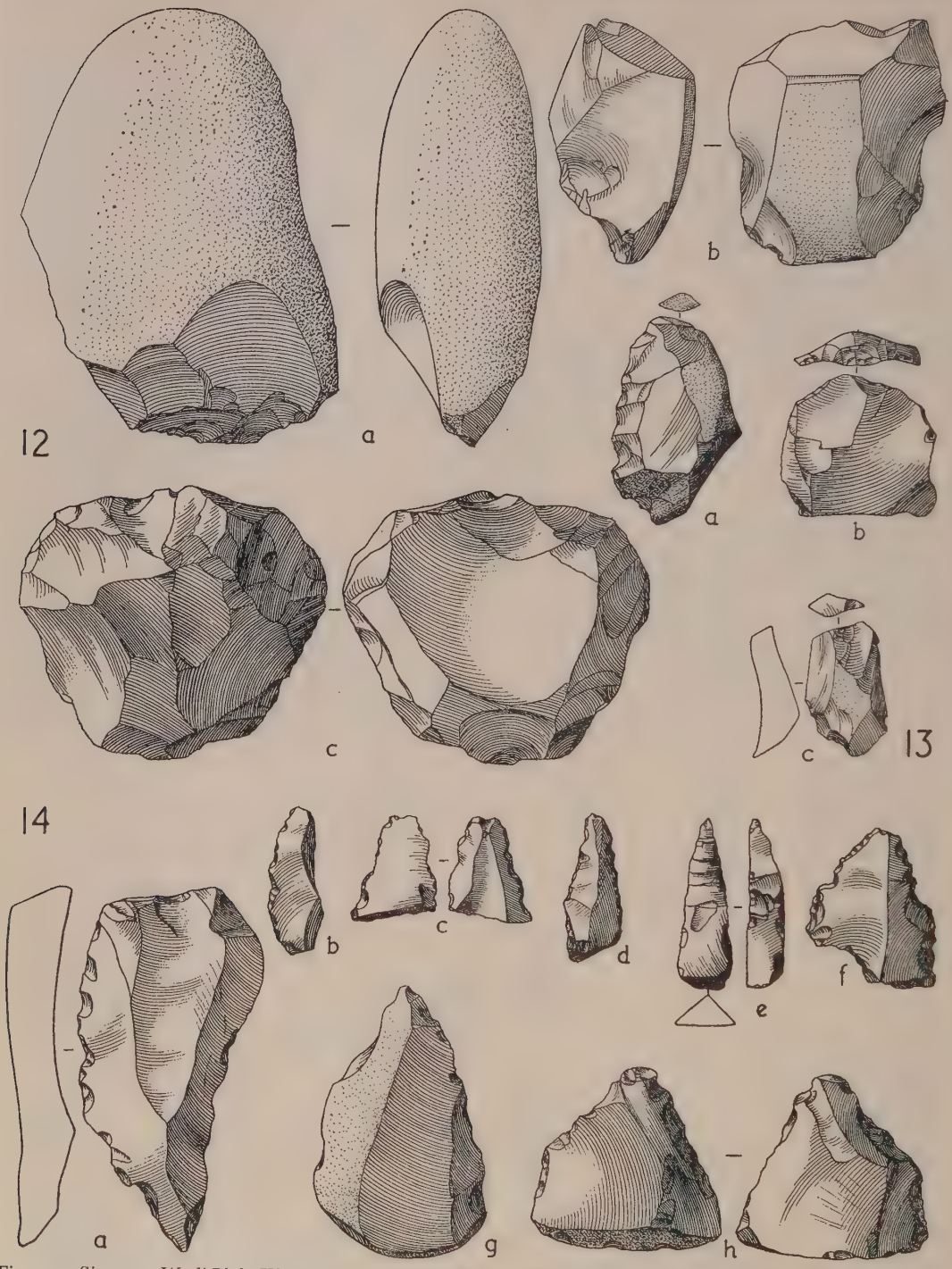


Fig. 12. Site 47. Wadi Blak, Khanasereh.—Implements from the Cemented Gravel, *in situ*. Fig. 13. Site 70. Aqaba.—Tayacian (?). Fig. 14. Site 47. Wadi Blak, Khanasereh.—Implements from the wadi floor derived from the Cemented Gravel.—½ nat. size.

group, and the admixture of limestone fragments may be due to ploughing in the past. The surfaces are today plain desert, but the Roman cistern renders likely the existence of a farmstead which took the lower parts of the slopes under cultivation. The upper parts are unlikely to have been under the plough (supposing the soil has since been washed away), for otherwise the knapping sites would not be preserved.

Since the industry is a Levalloisian with no later admixtures, one is inclined to assume that between the Levalloisian and the arrival of metal-using peoples, possibly as late as the Roman period, this country was densely forested. The rainfall would be sufficient to ensure a dry forest at the present day, but most of the time the forest may well have benefited from a pluvial period.

The site, however, still presents a stratigraphical problem which can only be solved by further excavation on the spot. In view of the antiquity of the Levalloisian, one is astonished to find knapping sites on the land-surface, and in excellent condition. They must have been protected by soil and vegetation until comparatively recent times, when denudation by wind and water washed the soil particles away and left a stony surface. One would therefore be inclined to assume that the soil that exists on the lower part of the slope is derived from higher up. In this case, it should cover the Levalloisian horizon which, in the trenches studied, it does not do. Instead, the "site" extends over the surface as a "pebble pavement" down to the bottom of the valley.

As Site 45 did not present the possibility of an easy solution of Levalloisian stratigraphy, sites in wadis were investigated instead. Its industry, however, is of great interest; it will be described in a separate publication.

Khanasereh, Site 46, *Wadi Mahal.* This locality, another of Mr. Park's many discoveries, lies immediately north of the Range Management Demonstration Camp. The little wadi that passes the camp has a terrace about 3·5 metres above its floor, which is old, for there is another Recent "flood-plain" terrace about 1 metre above the floor of the course of the stream.

The 3·5 metre terrace consists of brown gravel with bands of clayey sand. Mr. Park had previously found artefacts in it. On the occasion of the writer's visit, 20 specimens were recovered, two of which were of limestone, the others of flint. None was typologically characteristic, except that the size of some suggested a connection with Lower Palaeolithic. The 1 metre terrace also contained indeterminate artefacts and, naturally, they occurred also in the stream bed itself.

The hillside on the east is covered with deep soil that had been contour-ploughed by the Range Development Authority. Here, one gains the impression that surface denudation has concentrated on the surface artefacts which were originally in the soil. The 3·5 metre terrace therefore might be regarded as contemporaneous with the period or periods of hillwash. On the other hand, contemporaneity of the gravel terrace with the Levalloisian cannot be excluded.

Khanasereh, Site 47, *Wadi Blak* (Grid ref. 248/201, Sheet 1). A low plateau with fields separates the Wadi mentioned in the previous paragraph from Wadi Blak, about half a kilometre to the west, which is larger. The fields are full of Levalloisian flakes and cores. Fortunately, this wadi afforded larger and more complete sections, which were studied on two separate visits, particular attention being paid to the collection of artefacts *in situ*.

At first sight one gains the impression that the sections in the banks of the Wadi Blak vary to an extraordinary degree. This, however, proves to be due to the meandering course of the present bed being cut into two sets of aggradation, as shown in the section, fig. 10.

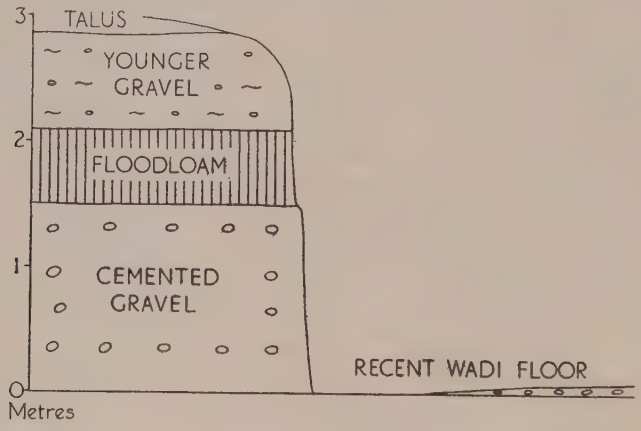


Fig. 10. Site 47. Wadi Blak, Khanasereh.—Section of wadi bank

The oldest deposit is a well-rounded pebble-gravel at the base of the cliff. It is nearly everywhere cemented with lime, so that implements have to be chiselled out. The contained industry is a Levalloiso-Mousterian comparable with that of Et-Tabun, and with some reminiscences of Jabrud (Rust, 1950). Cores, both of the tortoise and the Clactonian types, are frequent.

The cemented pebble-gravel is covered by about one metre of indistinctly stratified brown loam, almost certainly the flood loam phase of the terrace. It appears to grade into part of the talus of the hillside. The industry it contains consists mainly of flints of small size, a pink flint (which, however, is not absent from the cemented gravel) being frequent (fig. 16). The surfaces of the artefacts are often slightly glossy, which appears to be a chemical effect and is certainly not due to wind-polish. The small size of the implements may be due to a typological difference, though the talus contains Levalloiso-Mousterian artefacts of normal size. It is conceivable therefore that their small size is the result of selection by water which, as the flow was slowing down, was no longer able to cope with large specimens. Assuming the latter alternative, the industry of the flood loam is the same as that of the

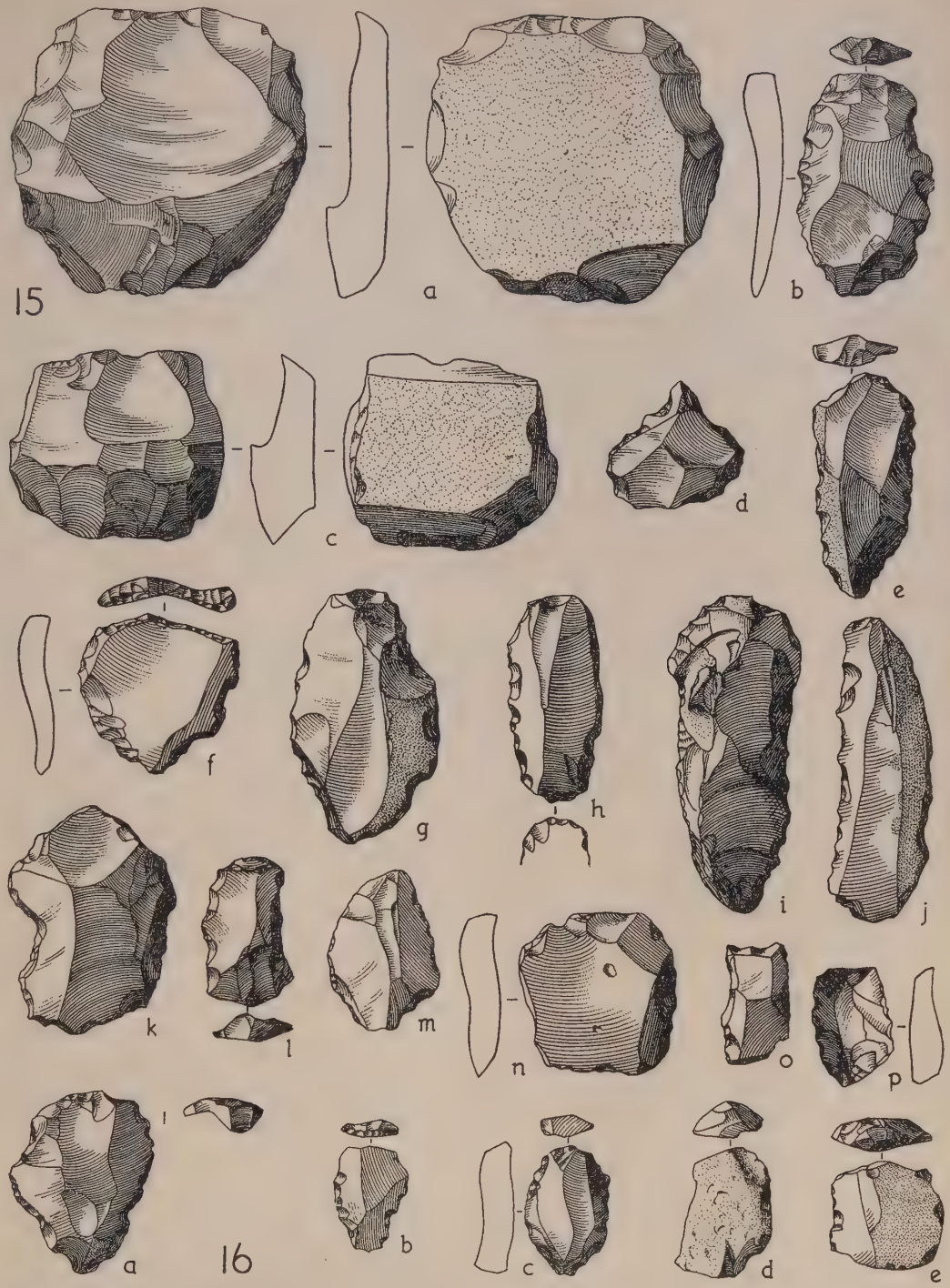


Fig. 15. Site 47. Wadi Blak, Khanasereh.—Implements from the wadi floor derived from the Cemented Gravel. Fig. 16. Site 47. Wadi Blak, Khanasereh.—Implements from the floodloam horizon, *in situ*.—½ nat. size.

cemented gravel. In places, the loam is speckled with white lime flecks due to Recent weathering.

The cemented gravel and the floodloam together contribute one cycle of aggradation. Since they are let into the general plateau-level, their deposition was preceded by a period of erosion, during which the wadis were (so far as the evidence goes) cut for the first time.

Lively river activity was followed by a decrease, and during this phase Levalloiso-Mousterian man occupied the district.

Following this phase of aggradation, erosion lowered the river bed to at least its present level. Another period of aggradation followed, filling the valley to at least the top of the floodloam, if not somewhat higher, the greatest observed thickness of this later set of gravels being about five metres. The gravels of this second aggradation phase differ from the first. They are unconsolidated, on the whole fine, there is much sub-angular gravel, and they are well bedded, with numerous lenses of loam derived from the older floodloam. The artefacts collected from this younger gravel are the same as those from the older series, and they must be considered as derived.

The distinctive character of the younger gravels makes it possible to state that the terrace of Wadi Mahal (Site 46) belongs to this phase and not to the older.

The sequence of Wadi Blak is very important chronologically. It fixes for the first time the position of a Levalloiso-Mousterian industry within the framework of rhythms of climatic erosion and aggradation. Assuming that the first phase of wadi-cutting here in the north is the same as that of the qas, the Levalloiso-Mousterian falls at an early stage of re-activation of valley erosion, which might be regarded as the beginning of the last Mediterranean pluvial. It should be noted that this is consistent with the interpretation of the faunal evidence from the Mount Carmel caves (Zeuner, 1952, p. 229), and it affords a means of extending an approximate geological chronology into the desert belt of northern Arabia.

The industry should be considered under two headings, namely that of the cemented gravel, and that of the floodloam. The former (figs. 11, 12, 14, 15, 16) comprises numerous characteristic Levallois cores. Many are more or less circular, and some of these extremely flat (fig. 15a). The size varies, 10 cm. being usual, but there are several as small as 3–4 cm. which were used in the making of small flake tools to be described. Other prepared cores are long and triangular and were used to produce pointed flakes (fig. 14a). In addition, there are irregularly polyhedric cores of the Clactonian type.

The flakes vary as much in size as do the cores, from *c.* 15 cm. down to about 2 cm. On the whole they are thick and clumsy, in spite of an excellent raw material. In shape they vary according to the cores, though many have one straight and one convex edge. Prepared platforms are present in many.

Among the retouched specimens, convex scrapers are frequent. In

addition, there are many with retouched notches and blunt nose-like projections. Among the scrapers there is a tendency for "cornered" specimens to appear, such as are found in Acheulian assemblages and also in the Jabrudian. True points are evidently scarce, only one good specimen was found on the wadi floor. Two burins were collected from the cemented gravel, both of which are rather of an Upper Palaeolithic facies. One is a small angle burin (2·6 cm.; fig. 11h), the other a triple facetted ordinary burin on the end of a blade-flake (fig. 11p). Only one core-tool was found, a heavy chopping-tool on a pebble.

The facies of this industry is comparable with that of the Levalloiso-Mousterian of the caves of Mount Carmel, from which it is distinguished mainly by the scarcity of points. There is a blade-tool component, represented mainly by the two burins and a number of blades with use marks. A few are blunted along one or both edges and have the end converted into a steep scraper, but the retouch is clumsy by Upper Palaeolithic standards. None of these specimens bears evidence of having been struck from a blade core.

It is easy to match artefacts from Wadi Blak with examples from Jabrud in Syria. The fundamental difference remains, however, that Wadi Blak is based on the Levallois technique, whilst the Jabrudian of Rust is essentially an Acheulian without hand-axes, as Waechter has pointed out. Some of the scrapers from Wadi Blak have several retouched edges joined with sharp angles. The small tools from Wadi Blak are much like Rust's Micro-Mousterian. Since at our site they are merely a component of a larger industry, it may be worth while to enquire whether selection due to the formation of fine talus has not played a part in producing the Micro-Mousterian assemblage at Jabrud.

The industries from the Khanasereh district will be described in detail in a separate paper.

Site 44, *Shu'eib Bridge*. Reference must here again be made to the Acheulian hand-axe used as a Levallois core, described on p. 23 (fig. 3). This specimen suggests the presence of an industry using the Levalloisian technique on the land-surface underlying the pre-pottery Neolithic.

Upper Palaeolithic.

Ail. This site (grid ref. 200/959, Sheet 3) will be studied in detail in the near future. The industry which Mr. Park recovered from it is most remarkable (fig. 8). It consists mainly of large and heavy blades, about 9 cm. long, with steep retouch converting them into often asymmetrical end-scrapers. There are plenty of cores, both of the semi-cylindrical blade type, and ordinary tortoise cores. The industry thus appears to be transitional between the Levalloiso-Mousterian and the Upper Palaeolithic and, on typological grounds, would be placed very low in the Upper Palaeolithic sequence. It is, however, by no means identical with the Upper Palaeolithic I

of Neuville or the Emiran of Garrod, for it is much coarser and, so far as the available material goes, it lacks the Emireh point.

Kharaneh IV. The Museum at Amman contains an interesting collection (reg. No. J 5243) of implements found on the surface by Mr. G. L. Harding a short distance north of Qasr Kharaneh. The material has an Upper Palaeolithic aspect, and it is mentioned here for this reason, though it is conceivably rather later. Many of the specimens are large well-made blades, the majority of which have been converted into neat end-scrapers (fig. 19). These are decidedly of Upper Palaeolithic facies (19 specimens). In addition, there are five end-scrapers on short flakes, and four burins, *viz.* two double concave angle-burins, one ordinary, and one oblique straight angle burin with an end scraper at the other end. There is one round scraper, almost circular and with retouch around the entire periphery except at the unprepared striking-platform. These elements would find a place in an Upper Palaeolithic industry.

Apart from these, however, six bifacial core-tools have to be recorded, one a chopping tool, two broad hand-axes, one elongate specimen with a rounded cutting edge at the distal end, which shows obvious marks of use, one bifacial tool used as a scraper (fig. 19a), and an " ovate " only 5 cms. long. These specimens would be consistent with a Dhobaian or even a Neolithic industry.

There are four cylindrical blade-cores. One is large enough to give the larger blades, but the other three would produce blades or flakes only one centimetre long or less. Such are not represented in the collection, so that the question arises whether a microlithic element belongs to the industry but has not yet been recovered.

Since the finds were made on the surface, an excavation is required to confirm the association of the two groups. The patination is very slight, and several specimens are quite fresh. They are here listed with the Upper Palaeolithic merely in order to draw attention to the potentialities of the site.

Site 71, Jafr School (Grid ref. 268/968, Sheet 3). This important site lies between Sheikh Auda Abu Tayi's Castle and the Orphans' School, on the Castle Terrace, about 10 metres above the mud flat of the qa. The geological situation was described on p. 19. The terrace is much younger than the desert gravel, and the patination of flints lying on the surface is slight. It is nevertheless characteristic, grey with minute white spots due to inclusions in the chert. The slopes of the neighbouring wadi show that the thickness of gravel on the terrace is inconsiderable. The terrace surface has been subjected to surface denudation, but the exposure of the site on it cannot have been of long duration, otherwise the patination of the surface finds would be heavier. The implements are found in a light-brown, calcareous, sandy soil belonging to the xero-rendzina group. This soil is not derived from the underlying Belqa Limestone, but from a sheet of sand composed of well-rounded quartz grains of aeolian origin. Whether this sand was deposited on the bench

of limestone by the wind, or by water (the sand having been blown into the water), cannot be decided without further investigation. It is certain, however, that the industry belongs to this sand and is older than the weathering that converted the sand into a xero-rendzina, for some implements have a crust of sand cemented by silica (opal; fig. 17b). The movement of silica in the soil suggests a type of weathering more humid than that of the xero-rendzina, or the presence of water with a high temperature. The first alternative would require the assumption of a humid phase intervening between the formation of the sand and the formation of the present surface soil, a phase which might be correlated with the erosion of the Police Post Terrace of 5 metres. At the time of its formation, therefore, the implements would already have been part of the sandy cover of the Castle Terrace of 10 metres. The second alternative would be satisfied by the assumption that the lake level of 10 metres itself supplied the water. In this case the industry would have been a beach site, and the silification of part of the sand would have followed its occupation while the lake level was still at that height. Both alternatives link this industry with the 10 metres stage of the Jafr Qa. One might have expected a somewhat later geological age, and further research might compel us to reconsider the arguments here used. So far as the evidence goes at the present, however, the Jafr sequence appears to be as follows:—

Formation of sandy gravel of the Pebble Desert level (humid)	Abbevillian
Formation of desert pavement (arid)	No industry
Climate unknown	Clactonian
Erosion of Jafr depression to 10 metre level (Castle Terrace) (humid)	No industry
Occupation of lake shore, sand blowing (? drier) ..	Jafr Upper Palaeolithic
Erosion of Jafr depression to 5 metre level (Police Post Terrace) (humid)	No industry
Drying up (arid)	No industry
Erosion of Jafr depression to present level (humid) ..	No industry
Drying up continuing to present day (arid)	Microlithic and Neolithic

Whilst the Jafr School site industry is thus fairly ancient, specimens lying on the surface were picked up and re-chipped at later periods. These later chip-marks bear a yellowish patination (or they are unpatinated). These characteristics apply also to most finds made on the Police Post Terrace which are usually fresh. Its surface is scattered with artefacts, including microliths and some large limestone flakes, but as no restricted occupation site was found and no indication of their geological age, this material need not be described. On the surface of the present qa, also, chert artefacts occur in many places. It would be worth while to investigate whether they reached

the qa with rainwash from the terraces or were brought there by man. The School site is associated with an outcrop of chert at a shallow depth and situated on a vantage point where the wadi joins the lake. This wadi was surveyed for a fluviatile terrace corresponding to the Police Post level, but no unambiguous evidence was found. There are indeed remnants of a terrace containing some chert artefacts, but the possibility of their formation by wadi floods at a more recent stage could not be excluded.

The Jafr School industry[1] is based on blades and to a minor extent on flakes. Both blade and flake cores occur. About 1500 artefacts were collected. The chief characteristics are the abundance of end scrapers on blades, the relative scarcity of burins and the absence of true microliths. The size of the artefacts varies from 2·5 to 11 cm., but the majority measure around 5 cm. Several types of tools occurring in small numbers give this industry an individual aspect.

Points.—The only type of straight point present is one symmetrically but coarsely retouched on both sides (fig. 17z, c). These are made on thick blades with a keeled cross-section and resemble those described by Garrod from the Middle Aurignacian of Mugharet-el-Wad (her Pl. XXIII, fig. 9), though they are mostly much narrower.

Curved Points.—Points resembling Chatelperron points, but with a curved tip (figs. 17b, c), made on thick blades, with steep backing along one side. Very characteristic of the Jafr industry, found also on the surface of the Castle Terrace on the other side of the wadi.

Steep scrapers.—One on the end of a thick broken blade (fig. 17r).

Nose scrapers.—These are keeled, i.e. made from blades taken off the corners of cores, highest just before the apex and very steeply trimmed (fig. 17w).

Round end-scrapers.—They are on thick and usually large blades. The trimming of the end is often asymmetrical (fig. 17u). It should be noted that the two best specimens have a whiter patina than the rest of the material and may therefore be derived from some earlier deposit. This applies to the figured specimen.

Straight end-scrapers.—A common type, the end of a blade having been removed by snapping off and the break retouched. Another variant shows more elaborate retouch, and the scraping edge is sometimes wavy (figs. 17p, q). Two specimens are narrower at the proximal end as a result of retouch. This may be intended as a tang.

Oblique end-scrapers.—Like the previous group, but with oblique working edge. One specimen is transitional to the following group, showing a slight concavity. Two are "tanged" at the proximal end (fig. 17x).

Hollow end-scrapers.—On ends of blades, with a notch either at the end or on one side (figs. 17 o, k). The latter type, the end of which is retouched, is

[1] Re-chipped specimens excluded.

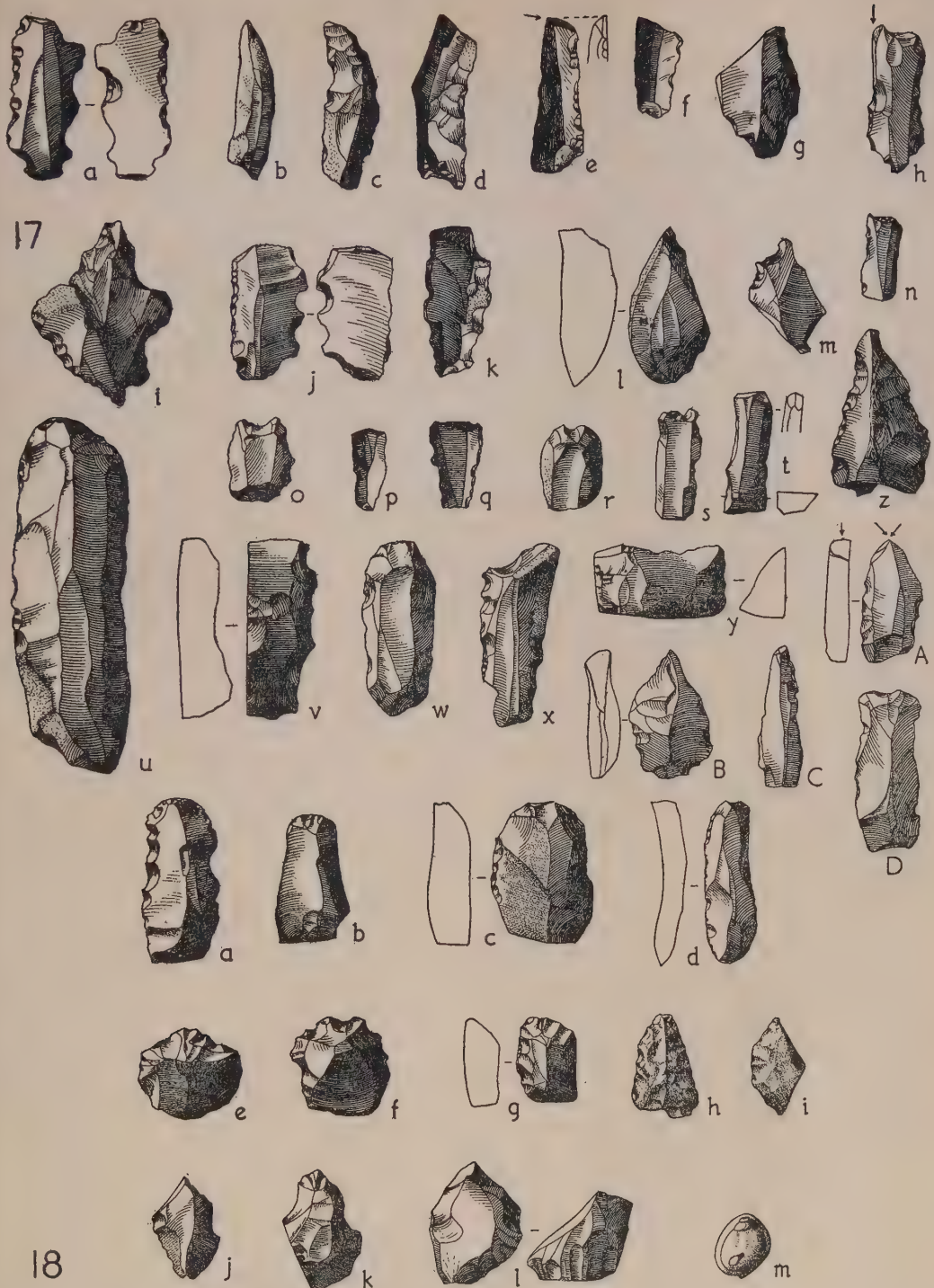


Fig. 17. Site 71. Jafr School.—Upper Palaeolithic VI. Fig. 18. Site 63. Um er-Rassal.—Upper Palaeolithic.—½ nat. size.

also characteristic of the industry. Both "left" and "right" specimens occur.

Muzzled scraper.—One poor specimen may be classified as such.

Round scrapers.—On flakes. Only about half of the periphery is retouched in a somewhat jagged fashion. One specimen has a notch at the other end (fig. 17 o).

Core scraper.—One specimen, keeled at the opposite end (fig. 17l).

Straight scrapers.—Two short and coarse scraping tools must be mentioned which resemble somewhat the Australian tuhla or ellouera (fig. 17v).

Burins.—Of six burins, two are the ordinary (i.e. bec-de-flute) type, two oblique straight angle, and two rightangle burins. Of the last group, one has a concave apex, the other is double-ended (figs. 17A, d, h, t).

Drills.—A characteric tool of the Jafr industry is a drill made on a small blade or flake. The operative end is produced by two oblique surfaces meeting at an acute angle. These surfaces were prepared by retouch on the small specimens, from the top on one edge and from the underside on the other (fig. 17m). In several of the larger specimens, however, at least one of the surfaces has been produced by a twisted break, somewhat after the manner of microburins (fig. 17B). In all, 15 drills with oblique points were found.

Piercers.—These are points obtained by retouch of one angle of the distal end of a blade. The retouch is on the dorsal side only and extends across the end of the blade which was broken across before retouching. Figs. 17m, s.

Notched blades and flakes.—These are fairly common and require no comment, except for the multiple notched and nosed flake illustrated (fig. 17i).

Saw-edge blades.—By a serial arrangement of several notches, the notched blades grade into saw-edge blades. These are very coarse (fig. 17a) and do not show grass polish. Since many ordinary used blades have jagged edges, a series of transitional types can be selected linking them with the saw-edge blades, but those thus designated bear evidence of intentional retouch. This, incidentally, was in several cases produced by alternate pressure-notching one from the upper side, the next from the underside (fig. 17j).

Trihedral rods.—18 blades with a triangular cross-section were counted. These are "crested guide flakes" struck from the edges of long cores and bearing preparation scars at right-angles to the main ridge either on one side or two. Whilst they were in the first instance waste specimens produced when blade cores were manufactured, several show evidence of use along their edges. These artefacts are frequently interpreted as fabricators.

Of about 1,500 artefacts collected, about 300 were counted, the remainder being waste and utilised flakes and blades:—

Points	9
Scrapers	28
Burins	6
Drills and piercers	18
Notched blades	18
Saw-edge blades	6

Backed blades	4
Utilised blade flakes	175
Crested guide flakes ..	18
Core trimmings (bases) ..	25
Cores	3
	310

This industry shows affinities with the *paléolithique supérieur* VI of Perrot, described from El-Khiam in Neuville (1951). It differs mainly in the absence of microliths, the scarcity of burins, and the presence of a few tool types peculiar to Jafr. It agrees in the presence of hooked points (El-Khiam, fig. 66, Nos. 3, 11, 12), the abundance of end-scrapers of various types and the appearance of tools made by the microburin technique. The core scraper also is present in both.

The absence of microliths appears to be genuine. Those found at the School site, and they were few, were on the evidence of patination part of a much later industry which re-used much of the older material. With its large proportion of Upper Palaeolithic elements, the absence of microliths, and the high geological position, the Jafr School site is best regarded as Upper Palaeolithic. It differs profoundly from the Dhobaian in the lack of rectangular angle burins.

Um-er-Rassal, Site 63. This site lies in the Hisma, the extreme south-west of the Hashemite Kingdom. Before it is described, a geographical correction must be made. According to our Bedu guide, Hamdan, a man who has lived all his life in the district, Wadi Kashkash is the gap between sandstone mountains extending from 191/881 to 191/878 of the kilometre grid (100,000 map, south Levant series sheet NH. 36. R.3 Aqaba). It bears no name on the map. The valley called Kashkash on the map is the Wadi Rassal in the southern part (193/879 to 193/877), and the Wadi Amra in the northern (193/881 to 193/879) leading northwards to the Khor el Ajram.

The site lies at the eastern end of a narrow passage linking Wadi Rassal with Wadi Kashkash. At the base of the northern sandstone cliff there is a rock-shelter several hundred metres long, with a rock-ledge that is in part covered with cemented red sand. If cementation is regarded as evidence of age, the contained industry is not, at any rate, very recent. In addition fresh and unabraded flint and chert implements of Tahunian facies occur. These are here disregarded.

Only 19 good specimens were collected. These include a shell of a Red Sea snail (*Nassa gibbulosa L.*), with a hole (fig. 18m), and two quartz flakes. One of these is a small concave scraper, the other a point (figs. 18h, i). One specimen is an end-scraper on a flake of rather coarse grey chert which looks pinkish owing to a superficial film of iron oxide from the red sand. The remainder are made of flinty chert ranging from pale grey and yellow to dark

brown. Evidently, the raw material had to be collected in the form of stray pebbles.

Though there are but few tools, they convey the impression of an Upper Palaeolithic rather than a later industry (fig. 18). There are:—

1 point
3 end-scrapers on short blades
2 end-scrapers on long blades
1 asymmetrical end-scraper on a long blade
3 round scrapers
2 convex scrapers on flakes
1 nose scraper
1 muzzled scraper
1 core scraper
1 bec-de-flute burin
1 fragment of retouched blade
1 used blade

The assemblage is too small to be classified with certainty, nevertheless, microliths were not found although looked for. The long-blade element characteristic of later industries is absent from the finds, and so are the characteristic multiple angle-burins of the Dhobaian. We are left mainly with a variety of scrapers such as are compatible with an Upper Palaeolithic age.

The site is the southernmost so far known in the north of the Arabian Peninsula that exhibits an Upper Palaeolithic facies. It will be worth while to look for more in the Hisma, and especially in partly eroded niches in the cliff faces, where there might have been springs during the Last Pluvial. The modern bir sites might likewise yield Upper Palaeolithic, but the superposition of Mesolithic and Neolithic occupation is liable to hide them.

At Um-er-Rassal there occurs a later industry of mostly unpatinated artefacts. A few only show the very beginning of patination in the form of small white spots on the edges. About one third of the material consists of cores down to a minute size. There is one of dull black chert, and there are quartz flakes. The raw material was scarce and worked to the limit. Blades of microlithic size are frequent, but there are no retouched tools, so that a classification of this industry is impossible.

Qa Um Salab, Site 66. This site, described on p. 50, has yielded a patinated industry. The collection made is not large enough to assess it with confidence. It is here tentatively described with the Upper Palaeolithic merely because the finds would not contradict it (fig. 20), because the later industry appears to be Mesolithic, and because some time must have occurred between the two industries to allow for patination. The specimens may be described as follows:—

2 broad points on flakes
4 coarse round scrapers
11 end scrapers (two thick and steep-nosed)

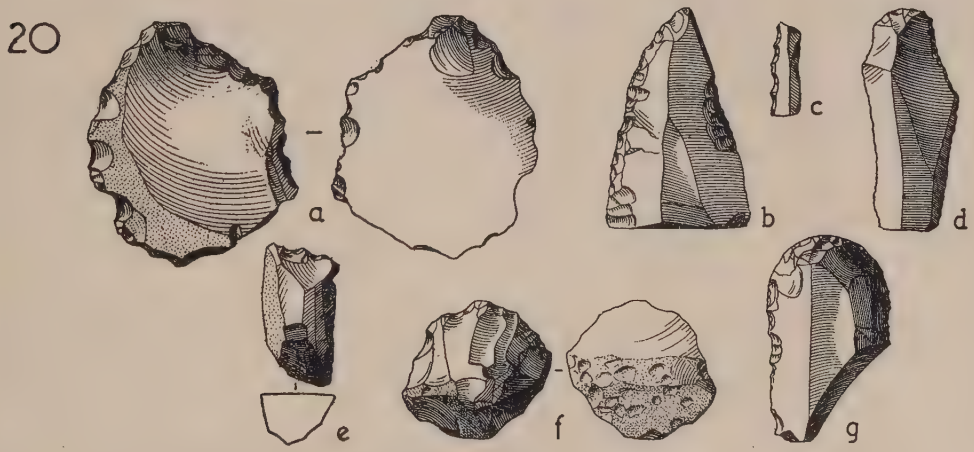


Fig. 19. Site 84. Kharaneh IV.—Upper Palaeolithic or Neolithic. Fig. 20. Site 66. Qa Um Salab.—Upper Palaeolithic (?).—½ nat. size.

1 straight oblique end scraper
3 core scrapers
1 small backed blade
1 retouched blade
3 utilised blades
1 guide flake
2 notched flakes
5 utilised flakes
1 unifacial disc
1 quartzite flake
1 quartz flake, the remainder being brown flint
47 waste flakes
12 blade cores

96 specimens

The large proportion of scrapers, especially of end scrapers is worth noting.

Upper Palaeolithic open air sites appear to be scarce in Transjordan. In view of the many sites of both earlier and later periods that have been discovered, this requires an explanation. It is conceivable that Upper Palaeolithic man lived mainly in caves; those at the springs of Wadi Musa might repay an excavation. The alternative is that he rarely visited this part of the country and rather concentrated in the more humid lands west of the Jordan Rift.

Mesolithic.

Qa Um Salab, Site 66 lies on the north side of the large qa called Um Salab, near the mountain with the spot height of 1,029 metres (Grid ref. 191/903, Sheet 3). It is easy to locate, since at the entrance to a short wadi there is a conspicuous natural hillock of granite which looks like a megalithic monument.

There are stray finds of stone artefacts all over the gravel area, but not on the dry mud surfaces of the qa. East of the wadi, a small tributary forms a niche in the wall of the mountain. At this point a gravel-covered terrace spur is to be seen which shows abundant evidence of human occupation. The gravel is, as usual, a concentration on the surface, below which yellow sand appears. The pebbles constituting the pavement are patinated dark brown.

Two industries occur on this surface. The older has gone some way towards acquiring a brown patination, though this is on the whole weak, and much less pronounced than that of the Clactonian of the site on the Jafr-Ma'an track; it is described on p. 48.

The younger industry is unpatinated. It comprises, apart from numerous

small blade-cores (5–2·5 cm.), core tablets and guide flakes, many small utilised or fresh blades. One small flake core was found and there are a few utilised flakes with no sign of preliminary preparation. The tools made by deliberate retouching are all on blades, about 50 per cent. of microlithic size. The larger blade-tools are on blades about 3–5 cm. long with slight retouch at the end and/or one side. There is one double-ended angle burin in this group. The remainder are smaller (3–1·5 cm.) and slenderer. These are typical microliths; they comprise backed blades, and most have the working edge at the distal end, which has been retouched to form a straight right-angle, or oblique, or a convex or a concave edge. Our small collection does not contain microburins, geometrics or lunates. There are a few steep convex scrapers on thick flakes or blades (fig. 22).

On the whole this industry, which remains to be studied from more ample collections, reminds one of the Nebekian of Rust, found at Jabrud. This is a Mesolithic industry and Waechter is inclined to absorb it in the Kebaran of Kebarah cave. The Qa Um Salab site, therefore, deserves closer study.

This is the more so as some curious ring-shaped stone settings were found on the ground. They resemble the structures found at Tell-el-Ghassul which Masson called *petits silos en pierres*. The instances from Ghassul have a diameter of 40–80 cm. with a preponderance of the larger size. Those at Um Salab measure 45–60 cm. It was considered inadvisable to excavate one in a hurry, hence their contents are unknown. But they alone would make a detailed study of this site worth while.

Qa Abu Qureishi, Site 67. On the southern edge of this qa, on the talus slope of Jebel el Hamra, there is a site (Grid ref. 181/903, Sheet 3) resembling Qa Um Salab in the presence of the same two industries. But the numbers found were few and there was no concentration suggesting a manufacturing site.

Wall Site, Qa Khanna. This important site was discovered by Mr. Park. The tool assemblage has been analysed by Miss Kirkbride. It lies on the lava plateau to the north of Qa Khanna and is reached from the ruin of Qasr Hammam es-Sarkh by taking the track to the north and crossing the western end of Qa Khanna. One arrives at an ancient wall which leads up to a ridge about a kilometre away (Grid ref. 282/173 Sheet 1). Here, lava blocks lie about. They are grey, being covered with lichen. Spaces appear to have been cleared between them so that roughly square enclosures are formed, the floors of which are covered with artefacts. These clearances between lava blocks are reminiscent of Uweinid (see Part II).

The artefacts, made of the usual varieties of flint and chert, are consistently of small size and microliths are abundant. Large specimens of the size of Upper and Lower Palaeolithic tools are absent altogether. Apart from large numbers of waste flakes and blades, and cores, 211 implements were classified. Of these about one third were microliths, another fifth backed blades. The microlithic character of this industry is thus very pronounced.

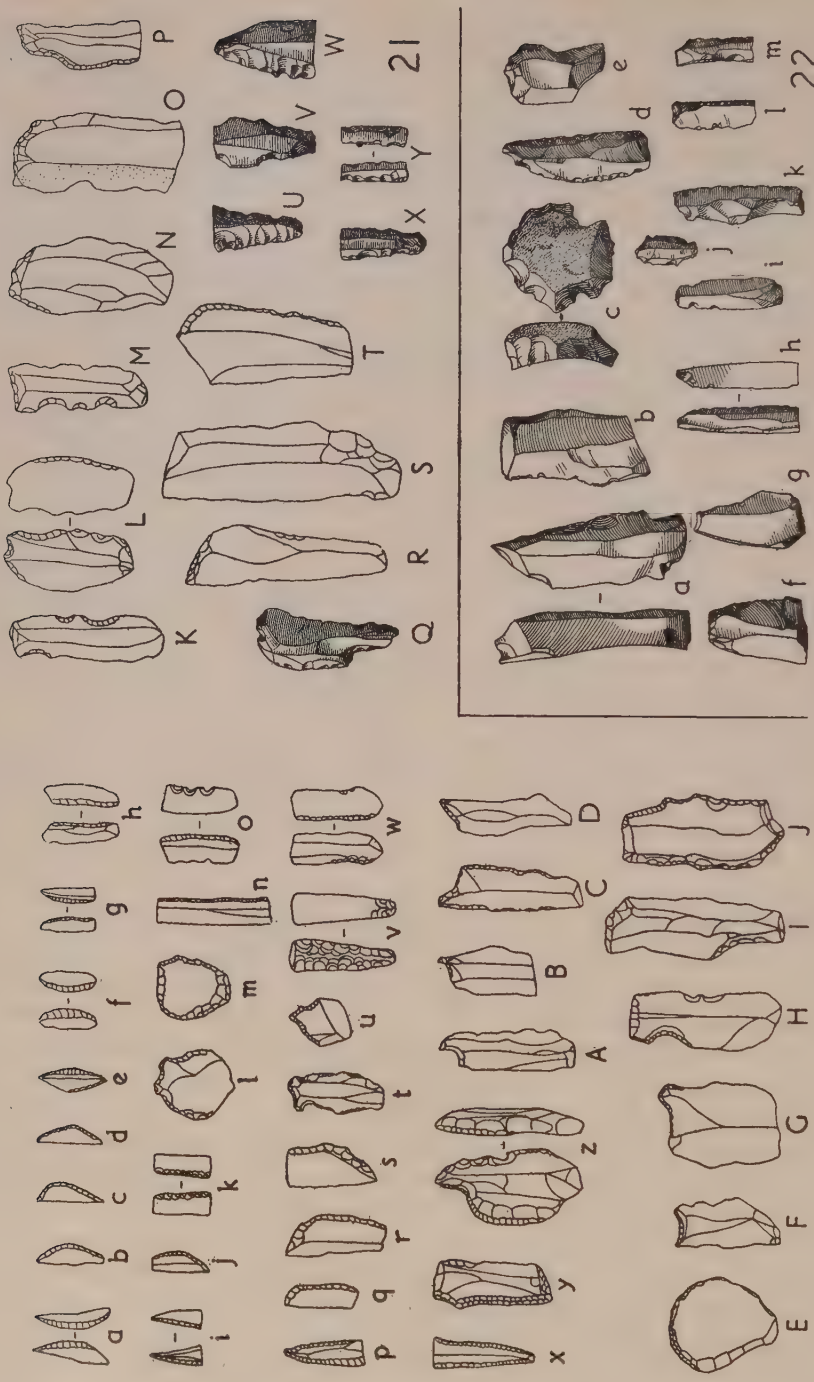


Fig. 21. Site 83. Wall Site. Qa Khanna.—Natufian. Fig. 22. Site 66. Qa Um Salab.—Mesolithic (?). —½ nat. size.

It closely resembles the Natufian I of Neuville as represented at Erq el-Ahmar and at Mugharet el-Wad, layer B2. It agrees with both in the abundance of microliths with Helwan retouch (about 20 per cent.) and the abundance of crescents. It agrees with Erq el-Ahmar in the scarcity, if not absence, of microburins which, however, are common in Mugharet el-Wad.

On the other hand, the Wall Site shows some individuality. A few tangs of arrow-heads occur, and there is one tanged asymmetrical end-scraper (fig. 21Q). Burins are very scarce; there is one poor specimen that may be regarded as an oblique angle burin, whilst many types of burins are abundant at the other sites.

The backing is usually steep on the microlithic bladelets, but larger blades show a much flatter, though often very regular retouch. Not infrequently, a blade is found to have been backed along one edge on the dorsal face, and on the ventral along the other.

A curious implement is shown in fig. 21X, of which two specimens were found. It may be described as a microlithic muzzled end scraper, without suggesting that this was its function. A very similar specimen is figured by Garrod (1937, pl. IX, fig. 40) from Mugharet el-Wad.

The peculiarities of the Wall Site may be due to its situation in what may even in its day have been a comparatively arid region. The burins are perhaps lacking because wood was not worked (nor bone ?), and sickle-blades of which Miss Garrod found many at Mugharet el-Wad are not in evidence because there were no grasses worth harvesting. The presence of arrow-heads, though there are few, may suggest that hunting was more important here than in Palestine.

The following is a classified list of the specimens studied:—

37 crescents
2 triangles
1 trapeze
13 points
4 irregular microliths
29 fragments of geometrics
33 backed blades, plain or broken
10 backed blades, obliquely truncated
7 blades backed on both edges
3 blades with retouch at distal end only
9 straight-edged end-scrapers
9 convex end-scrapers (3 asymmetrical)
1 concave end-scraper
2 muzzled end-scrapers on blades
6 drills on blades
6 notched blades
24 utilised blades, not backed
1 burin

3 arrow-heads (fragments)
7 round scrapers
1 straight scraper on a flake
1 pick (7·7 cm., the largest specimen)
2 cores

211

In addition to the industry described above a few flakes and scrapers, and one burin, have been found which are patinated and abraded. These may represent an earlier industry, possibly of Dhobaian type.

The Dhobaian, of which several sites have been found, presents a number of typological and stratigraphical problems which will be discussed in Part II of this paper.

Key to site-numbers on Fig. 1 (*p.* 18):

44. Shu'eib Bridge (Acheulian-Levalloisian, Tahunian). 45. Khanasereh, Cistern Site (Levalloisian). 46. Khanasereh, Wadi Mahal (Lower Palaeolithic ?). 47. Khanasereh, Wadi Blak (Levalloiso-Mousterian). 49. Ghor Damiya (Dolmen site). 51. Wadi Yabis (Neolithic). 57. Khatt esh-Shibib (Acheulian and later). 58. Ain Rum (Chalcolithic or Early Bronze Age). 59. Ain el-Qattar (Tahunian). 60. Ain Nakheila (Tahunian). 61. El-Qoseir (Tahunian). 62. El-Qoseir (Tahunian). 63. Um er-Rassal (Upper Palaeolithic and Tahunian). 64. Um Nerat, Wadi Amrah (Stone Circles). 65. Wadi Rum near Wadi Layyah (Megalithic building). 66. Qa Um Salab (Upper Palaeolithic ?, Mesolithic ?). 67. Qa Abu Qureishi (Upper Palaeolithic ?, Mesolithic ?). 68. Aqaba (Palaeolithic). 69. Aqaba (Palaeolithic). 70. Aqaba (Tayacian). 71. Jafr School (Upper Palaeolithic VI). 72. Ma'an-Jafr Road (Abbevillian, Clactonian). 73. Jerash (Tahunian). 74. Jerash, Hadrian's Arch (Acheulian). 75. Corral 3 (Clactonian-Tayacian, Dhobaian). 76. Qa el-Mukheizin (Clactonian Tayacian, Dhobaian.) 77. Kharaneh. Site 1 (Tahunian). 78. Kharaneh. Site 2 (Clactonian, Tayacian, Tahunian). 79. Kharaneh. Site 3 (Tahunian). 80. Jebel Uweinid. (Tahunian). 81. Wadi Harith (Lower Palaeolithic). 82. Irbid Road (Tayacian). 83. Wall Site. Qa Khanna (Natufian). 84. Kharaneh. Site IV (Upper Palaeolithic ?, Neolithic). 85. Ail (primitive Upper Palaeolithic ?). 86. Ma'an (Acheulian and later). 87. Petra (Acheulian and later). 88. Ain ed-Duyuk (Neolithic).

THE BOUNDARY OF EPHRAIM AND MANASSEH IN THE WESTERN PLAIN

By Eva Danelius

" For I am a father to Israel and Ephraim is my first born " (Jer. xxi, 9).

I

One of the most interesting problems for Biblical scholars is that of the traditional importance of Ephraim, its preponderance in pre-dynastic times, especially during the conquest and at the period of the settlement, its leadership of northern Israel up to Jeroboam I, and the fact that the name of Ephraim remained a favourite synonym for the Northern Kingdom to pre-exilic prophets and to Ezekiel. Among the many questions to be answered that about the territory inhabited by Ephraim seems easiest to be solved. Notwithstanding the tribulations of various renowned scholars, however, the delineation of a boundary-line corresponding to the Biblical sources proved to be a task never to be fulfilled successfully: the territory thus circumscribed was far too small to be allocated to the leading Hebrew tribe[1].

Tribal boundaries are given in detail in the Book of Joshua. Those of the Joseph tribes are described in chapters xvi and xvii. While the northern, eastern, and southern boundaries are easy to follow, the western boundary is open to question and so is the boundary between the brother-tribes: the only

[1] W. J. Phythian-Adams (" The Boundary of Ephraim and Manasseh ", *PEFQ*, 1929, pp. 228–241) arrives at the contention that " this frontier not only conflicts with early tradition but is actually disproved by later history . . . it does in effect give a vast preponderance of territory to Manasseh and leaves Ephraim ' cribbed, cabined and confined ' within an incredibly small portion of the hill country of central Palestine ". *Cf.* K. Elliger, " Die Grenze zwischen Ephraim und Manasse ", *ZDPV*, 53 (1930), pp. 265 ff.; " Neues ueber die Grenze zwischen Ephraim und Manasse ", *JPOS*, Vol. 18, Nos. 1–2; " Thappuah ", *Palaestinajahrbuch* 33 (1937), pp. 7 ff.; M. Noth, " Studien zu den historischgeographischen Dokumenten des Josuabuches," Teil II: Die Grenzen Manasses und Ephraims, *ZDPV* 58 (1935), pp. 201 ff.; M. Noth, *Das Buch Josua* (Handbuch zum Alten Testament, Erste Reihe, 7, Tuebingen, 1938), pp. 72 ff: " Die Staemme Manasse und Ephraim." Noth claims that the text of Joshua xvi–xvii, describing the common boundary, is completely shattered (" sehr zertruemmert "). The condition in which it has been handed down makes it impossible to come to well-founded conclusions (" Der Zustand, in dem Jos. 16, 17 ueberliefert ist, laesst . . . nicht erwarten, dass, in allen Einzelheiten gesicherte Ergebnisse erzielt werden koennen " (" Studien ", p. 202). Noth makes Ephraim a kind of lodger of Machir, eldest son of Manasseh. He confines Ephraim to an infinitesimal island, about the size usually inhabited by a younger clan, in the vast sea of Manasseh's territory.

fact agreed upon is that Ephraim held the southern part, Manasseh the northern part, spreading east to Transjordan.

Boundaries were considered holy and inviolable by the Biblical legislator. An encroachment on one's neighbour's boundary draws down a curse on the culprit—like image-making, disobedience to parents and other capital transgressions (Deut. xxvii, 17). If this was the law concerning individual boundaries, how much more had intertribal boundaries to be respected, which had been fixed by Joshua before the tabernacle! It may be assumed that they were most clearly and unmistakably drawn in order carefully to avoid any transgression as that might result in the cursing of an entire tribe. Therefore places named in connection with boundaries must have been landmarks known to each and everybody. Their knowledge was impressed on every member of the tribe in order to avoid any misunderstanding, and even children grazing their flocks were well aware of every detail, just as they are to-day. Therefore, errors in the Massoretic text as to places named as landmarks for intertribal boundaries should be a very rare exception. Failure to identify certain place-names is no justification for claiming a corruption of the text, but may be accounted for first by our own ignorance of certain details.

In addition to this safeguard provided by common knowledge we are in the enviable position of being able to check the results arrived at against a second source of first-hand information: the Septuagint. It is amazing to realize how easily the reports on boundaries offered by the LXX were overlooked by the scholars who dealt with our problem—if they consulted them at all! The Septuagint, in its historical parts, does not simply translate the statements made in the Hebrew text. The editor completes them and brings them up to date[1]. This is especially true for the Book of Joshua. Identification of cities and villages enumerated there should scarcely have offered more difficulties to the redactor of the LXX than are met with by the 20th century scholar who follows the steps of Richard Lion-Heart through the Palestine of the 12th century A.D. with the help of a description by one of Richard's contemporaries. Therefore if the statement of Noth about the Massoretic Text of Joshua xvi and xvii being shattered were true, we should turn for help to the Greek version, it being most unlikely that geographical texts would be obscured exactly in the same way and in regard to the same places, in both records.

When consulting the Septuagint, we must be prepared to find the places looked for not under their Hebrew names but under the Greek names by which they were known in the 3rd century B.C. to the Jewish-Greek readers outside Palestine, for whom the translation was made. The fact that sometimes both names survived in the same neighbourhood or even for the same

[1] *Cf.* the report on Gezer, Josh. xvi, 10. The redactor of the LXX inserts after v. 10 of the M.T. the report of I Kings ix, 16 ff., before starting with chapter xvii.

place, right into the present era[1], provides an additional clue for the interested scholar.

So far, only Biblical records have been mentioned. Since the publication of the monographs quoted, Assyrian records have been discovered which prove most valuable to the scholar preoccupied with the geography of the Northern Kingdom—and of these ample use will be made in this study.

The foregoing considerations held good for every undertaking concerned with intertribal boundaries during the pre-monarchic period. As far as the boundary between Ephraim and Manasseh is looked for, no solution seems acceptable which denies to Ephraim a territory commensurate with its leading position among the Hebrew tribes. Now, some of the scholars quoted have taken great pains and checked the various figures given in different Biblical records for the relative strength of the twelve tribes. This purely mechanical operation, however, does not give a true picture of the relative importance of a tribe; quite the contrary—the picture thus obtained may be a very distorted one. In the case of Ephraim, the mere fact that he had received the birthright outweighs all findings based on mere numerical strength. This fact is easily overlooked by the modern scholar for whom the scene described in Genesis of the dying Jacob blessing his grandchildren and bestowing the birthright on Ephraim seems little more than a pious myth. For the Hebrews, it was a reality. This is proved by the brief statement in 1 Chron. v.: " (the) birthright was given unto the sons of Joseph " (*v.* 1), reconfirmed in *v.* 2: " but the birthright was Joseph's ", and illustrated by Ezekiel xxxvii, 19: " Behold, I will take the stick of Joseph which is in the hand of Ephraim ". Now, the Book of Chronicles was written rather late with the intention of glorifying the house of David; and the prophet Ezekiel prophesied among the exiles in Babylon; therefore the supremacy of Ephraim must have been very outspoken in order to be remembered thus in the 5th century among the exiles of Judah.

This is not the place to dwell on the various prerogatives and the importance of the institution of the birthright in ancient Israel. One aspect, however, holds special weight for any investigation into the question of the size of Ephraim's portion of the land: his position as bearer of the birthright entitled him to an extra portion of the common inheritance (Deut. xxi, 17). This seems to be hinted at in the last words addressed by Jacob to Joseph: " Moreover I have given to thee one portion above thy brethren " (Gen. xlviii, 22).

[1] C. Clermont-Ganneau, *Archaeological Researches in Palestine during the years* 1873–74, ed. Pal. Expl. Fund, 1896. (The French publication, unfortunately, was not accessible to this writer.) Vol. II, p. 5: " It is remarkable that in these parts [the plain near Jaffa] local tradition often ascribes to the same place two names, one regarded as ancient, the other modern. This peculiarity . . . deserves attention from anyone who may devote himself to investigations into onomastic topography ".

To summarize: the problem set in this monograph is whether it is possible

(*a*) to reconstruct the boundary of Ephraim and Manasseh without altering the Massoretic text of Joshua xvi, 6 ff.; xvii, 7 ff., and

(*b*) simultaneously, in doing so, to allot a territory to Ephraim commensurate with its leading position among the Hebrew tribes.

II

In the Scriptures, the western boundary of Israel has always been fixed at the Mediterranean, from the river (or " brook ") of Egypt in the south, to Mt. Hermon in the north (Nu. xxxiv, 6)[1]. Nevertheless, according to the ruling theory, the tribes are supposed never to have conquered the maritime plain in pre-dynastic times. The same scholars putting up this theory wonder at the failure of the Book of Joshua to include any place situated in the Sharon Plain in its various city-lists[2].

At the time when these theories were proclaimed, the Sharon Plain consisted of malaria-infested swamps and barren sand-dunes. To-day, it is one of the most densely-populated regions in Israel, covered with a green belt of orange groves, banana plantations, vegetable gardens and fruit groves, garden suburbs and seaside resorts. There is no reason to doubt that the Sharon was equally fertile in antiquity, as many ancient mounds bear witness to this fact. It is difficult to imagine that a tribe as proud and strong as the tribe of Ephraim would suddenly stop fighting and be content to look at the choicest piece of its inheritance from some barren hills on the eastern border of the Sharon. The less so, as the King of the Sharon had already been smitten by Joshua, together with the other kings of this region![3]

[1] The following editions of the Scriptures were used:—

Hebrew: *Thorah, Nebi'im, K'tubim, meduyak al pi hammassoreth,* " Sinai ", Tel-Aviv. *Biblia Hebraica: Libri Josuae et Judicum,* Noth-Kittel, ed. 6. (Note: All quotations in Hebrew are based on the M.T. as edited in Tel-Aviv.

Greek: *Septuaginta,* edidit Alfred Rahlfs, 5. Aufl., Stuttgart. Max M. Margolis, *The Book of Joshua in Greek,* Paris, 1931.

Latin: *Bibliorum Sacrorum iuxta Vulgatam Clementinam,* nov. ed. curavit A. Grammatica, Mediolani 1914.

English: *The Holy Bible set forth in* 1611 *and commonly known as the King James Version,* American Bible Society, New York.

German: *Die Schrift. Zu verdeutschen unternommen von Martin Buber gemeinsam mit Franz Rosenzweig,* Berlin, Schocken-Verlag. *Die Bibel . . . nach der deutschen Uebersetzung D. Martin Luthers nach dem vom Deutschen Evangel. Kirchenausschuss genehmigten Text,* Stuttgart (n.d.).

[2] *E.g.*, Noth and Elliger in the works cited on p. 55, n. 1; Garstang, *Joshua, Judges* (London, 1931), holds the same view though he admits that the history of the Sharon " is still largely a closed book " (p. 89).

[3] Joshua xii, 18. *Melek la-Sharon* means " the King of the Sharon ". The English translation is misleading.

One source for this theory was found to be an erroneous translation of Joshua xvii, 16. The Joseph tribes, after having inspected their lot, found it much too small. They lodged a complaint and were advised by Joshua to cut down the wood in the surrounding lands then inhabited by various Canaanite tribes; to that they answer (literal translation from the M.T.): " Chariots of iron has all Canaan, that which sits in the land of the plain, that in Beth-shean and her daughter towns, and that in the plain of Jezreel ".

The Hebrew text clearly points to three separate regions: *'Erez ha-'Emek*, the great plain in the west; Beth-shean, the plain at the foot of Mt. Gilboa; and the valley of Jezreel to the north of Mt. Ephraim. The three words are connected by the same relative pronoun: *la'asher*, related to *la-Kana'ani*. The Septuagint reading does not justify any other interpretation either. The erroneous reading is first met with in the Vulgate: " cum ferreis curribus utantur Chananaei, qui habitant in terra campestri, in qua sitae sunt Bethsan cum viculis suis et Iezrahel mediam possidens vallem ". *'Erez ha'emek*, the land of the plain, i.e., the great western plain, of the Hebrew text has thus been crossed out and has vanished as a separate entity from its Latin counterpart. Unfortunately, it was the Latin reading which was followed by the King James version as well as by Luther: " All the Canaanites that dwell in the land of the valley . . *both they* who *are* of Beth-shean etc."[1] or (Luther):— " bei allen Kanaanitern, die im Lande wohnen: bei denen zu Beth-Sean etc."

Archaeology does not exclude the possibility of an early settlement of the Sharon by a Hebrew tribe[2]. So far, only one mound has been excavated stratigraphically in the Sharon Plain: Tell Qasîle at the northern bank of the river Yarkon[3]. After two brief seasons, work on this mound was stopped again. Nevertheless, proof has been obtained that a trade centre and harbour city flourished here uninterruptedly for almost 2,300 years, from the 12th century B.C. right into the period of the Mamelukes, the last inhabitants having cleared out during the 12th century A.D. The city has not been identified yet, strange as that may seem.

The two lowest strata of Tell Qasîle, numbered XII and XI by the excavator, belong to Early Iron IIA (end of the 12th and 11th centuries B.C.). They were ascribed to the Philistine period which is considered pre-Israelite in the region, according to the ruling theory. According to this theory, the conquest and following settling of the land must have taken place during the Late Bronze Period, reaching into Early Iron I, i.e., approximately from the

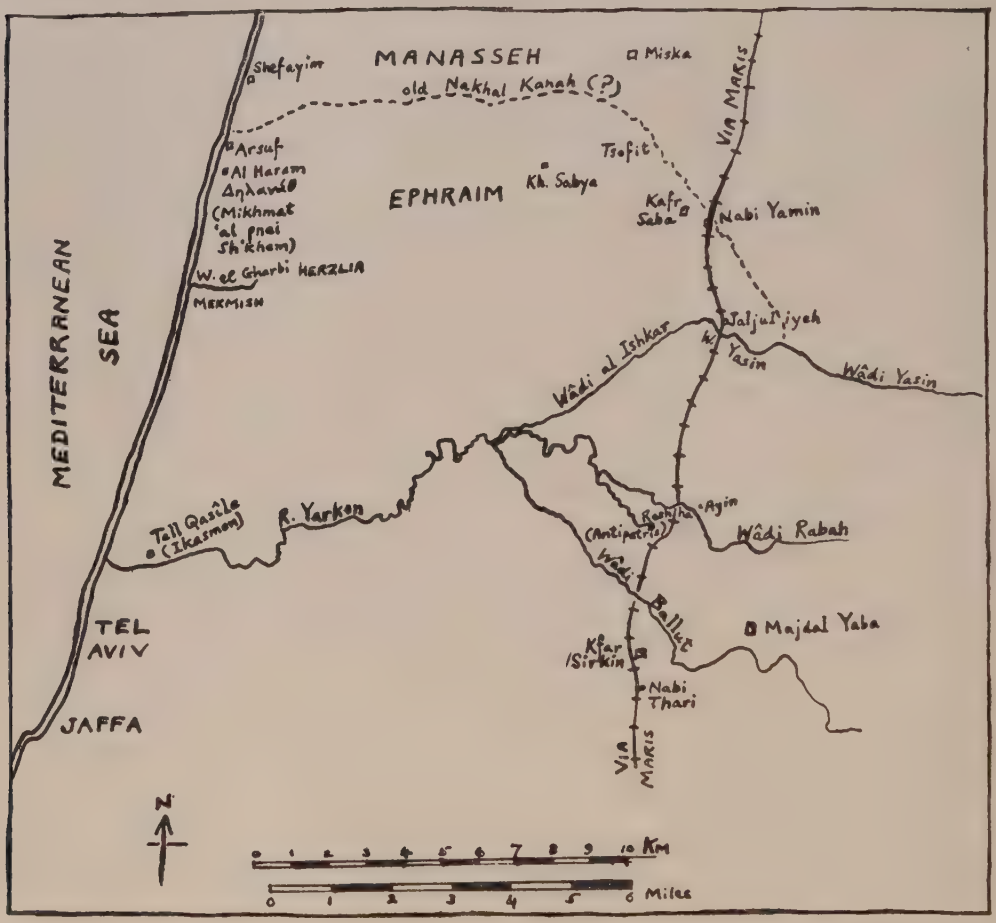
[1] The words italicized are additions of the English translator and are notified as such by being printed thus in the text used.

[2] *Cf.* Part III, pp. 63 f.

[3] B. Maisler, " The excavations at Tell Qasîle ", *Isr. Expl. Journ.*, Vol. I, Nos. 2, 3, and 4; *Bibl. Archaeol.* XIV, 2, p. 43. A report in Hebrew has been published separately by the Isr. Expl. Society, Jerusalem, 1951. For results of stratification see *Isr. Expl. Journ.* I, 2, p. 68.

end of the 14th to the 12th century. As already mentioned, the Sharon Plain is supposed to have been occupied only by King David or King Solomon.

It would be premature to jump to the conclusion, based on one brief excavation, that the Sharon was not settled by the Israelites during a far earlier period. Firstly, only a small segment of the mound has been excavated so far. The possibility cannot be excluded that more extensive digging may



open up older strata covered by as yet untouched parts of the mound. Secondly, surface investigations carried out on other mounds of the Sharon by this writer have proved beyond doubt that some of them were settled during the Late Bronze Age. Thirdly, scarcity or even complete absence of city mounds from the Late Bronze Age has been equally observed in Mount Ephraim, the early settlement of which by Israelite tribes has never been doubted. As far back as 1929, Professor Albright guided a trip to Mount

Ephraim in order to find out " To what extent was Mount Ephraim occupied by a sedentary population in the Bronze Age? "[1] To his surprise, he was compelled to admit that there were almost no sites from that period.

" . . . the most remarkable feature: Middle Bronze age occupation was followed by a more or less prolonged period of abandonment. Western Ephraim appears to be more destitute of mounds than any other part of Palestine, unless it be western Gilead. . . . "

And he finishes his report as follows:—

" . . . it must be concluded that Mount Ephraim began to be occupied by a sedentary population in the early second millennium, but that this occupation was interrupted about 1500 B.C. and was not resumed on an extensive scale until about the 12th century, or a little earlier . . . "

The most convenient explanation would be found in the well-known fact that the Hebrews from time immemorial had been tent-dwellers, and were proud to be such (Gen. xlvii, 6). Though it seems as if they had finally agreed to live in houses in Egypt (Ex. xii, 7), they returned to tent-dwelling by necessity during their sojourn in the desert. From the Biblical record it may be deduced that this remained the predominant form of housing during the period of Joshua and the Judges and even under the first kings[2]. This state of affairs found expression, too, in the fact that the Holy Ark continued to be housed in a tent till King David built the first royal palace for himself (2 Sam. vii, 2).

Nevertheless, transition from cattle and sheep breeding to farming might have started rather soon, inaugurating a change of housing, however slow. There is no reason, however, to assume that these houses were built of mudbricks. Brickmaking certainly was an abomination to the Israelites with their vivid memories of Egypt, where it had been concomitant with slave labour, the Hebrews being the slaves. There was no need to move into buildings of bricks or stones, either.

From all we know, the Hebrews must have been excellent woodworkers. There was plenty of it in the densely wooded country[3]. By clearing the woodlands, as Joshua had told them, timber was provided from which huts and houses could be built, as is done by new settlers all over the world, wherever this raw material is available.

Wood does not keep for thousands of years in the humid climate of the Sharon Plain or Mount Ephraim. Therefore, hope is slim of ever excavating

[1] W. F. Albright, " New Israelite and Pre-Israelite Sites: The Spring Trip of 1929 ", *BASOR* 35, Oct. 1929. Quotations from pp. 4 and 6.

[2] See esp. Josh. xxii, 4, 8; Judges vii, 8; 1 Sam. xiii, 2; 2 Sam. xx, 1; 1 Kings xii, 16, etc.

[3] Joshua xvii; Josephus, *Antiquities*. The Sharon Plain was still densely covered with wood in the Crusaders' time. Remnants were still standing at the beginning of this century. During World War I, all trees were cut down by the Turks.

an entire Israelite settlement from the period of Joshua or the Judges in these regions.

But the Hebrews' skill was not confined to building. From the description of the Ark and the tabernacle we know of their remarkable gift for furniture-making which they seem to have mastered to an astonishing degree[1]. Small household articles, spoons and forks, bowls and dishes, may also mostly have been from wood. Earthen vessels for water, for storage purposes, etc., could be easily obtained by the local population in exchange for hides, wool, milk and other agricultural products. There was no necessity for the Israelites to start an industry of their own. Hence, pottery would not differ from that of their neighbours, during this period. Therefore, any conclusion based on pottery alone, to the effect that the Hebrews were not there, would be premature. If they were, we must also find them.

We might as well insert some remarks concerning the observed abandonment of all settlements during the period in question. According to the Bible, the Canaanites and other local populations continued to live among the Israelites. So why did they give up their cities which offered much more protection from a foreign enemy than did the open country?

The phenomenon is not an isolated one, and it is not confined to Palestine. As a matter of fact, similar observations were made during a survey covering the entire ancient East. This is not the place to go into detail. But according to a theory which is constantly gaining ground, Palestine—and the entire East—at that period must have been shaken by prodigious earthquakes which continued to a lesser degree for a considerable length of time[2]. This blends perfectly with several narratives in the Books of Joshua and Judges.

In countries threatened by repeated heavy earthquakes, people do not live in brick buildings in walled cities with narrow winding streets. They prefer facing and fighting a human enemy in the open field to being trapped and killed by falling houses and crushing city-walls. It may happen, therefore, that no archaeological evidence will be found for Canaanite settlements in the Sharon Plain during this period, either.

How then can we hope to identify the places named in chapters xvi and xvii of the Book of Joshua, if every trace of them has vanished?

History always repeats itself. The story of Jewish settlements in Palestine during the British Mandate, i.e., during the period between the two World Wars, may help to solve the problem.

During the period in question, groups of young settlers were formed, the size of which roughly corresponded to that of a " family " as characterized in the Scriptures. After having been allocated a piece of land, they occupied

[1] Exodus, xxv, ff. *Cf.* also the contemporary Egyptian furniture, which must have been known to the Israelites.

[2] Claude F. A. Schaeffer, *Stratigraphie comparée et chronologie de l'Asie Occidentale (IIIe et IIe millénaires)*, London, 1948. Prof. Schaeffer fixes the date of the catastrophe at about 1365 B.C.

it by erecting tents, and set out to work. During the following years, they slowly started replacing tents by wooden huts: at first, a large hut was built which served as dining-hall and communal meeting-place. Then, one by one, the tents were replaced, till the last of them had vanished. In the meantime, a local building industry had developed and local cement replaced imported timber. The settlers now chose a final building site which might or might not be the same as the original one. A variety of considerations may lie at the bottom of the decision in favour of a move: *e.g.*, security, or the climate—a settlement is moved uphill in order to catch the cooling western breezes, or downhill to be protected against the full blast of the winter storms—or the final outlay of the fields. But whatever the cause, the new place will never be erected beyond a very limited perimeter and definitely never beyond the borders of the settlers' fields. In case of a move, the old place is ploughed over, and no trace remains. If the new houses are erected on the very site of the former huts, and occupation continues uninterruptedly, no hint of a settlement prior to that built of stone or cement will ever be discovered.

To summarize: hitherto, no systematic archaeological survey has been made of the Plain of Sharon. Of its various mounds, one only has so far been excavated at which settlement started during the Early Iron Age. The seeming scarcity of Late Bronze Age settlements may be due to our incomplete knowledge of the region. This lack of archaeological evidence is no sufficient reason for jumping to the conclusion that this part of Palestine was not settled during the 15th to the 12th century B.C. and/or that these inhabitants were not under Hebrew rule, and that their rulers lived among them.

This writer ventures the opinion that the possibility may not be excluded, in case more Early Iron towns will be excavated in the Sharon Plain, that these towns were preceded by Late Bronze settlements built of more perishable material at the same spot or in its immediate neighbourhood.

III

Boundaries of the various Hebrew tribes may be rediscovered with the help of genealogy. The genealogy of Ephraim is given in 1 Chron. vii, 20 ff. The tribe, we are told, tried to raid Gath, but failed and was almost annihilated in the fighting. Thereafter, Ephraim went in to his wife and she conceived. She bore him three sons, the youngest of whom was called Reshef. He became the ancester of Joshua-bin-Nun.

In modern language, the tale would be told like this: after an abortive raid into Philistine territory, during which the tribe was nearly extirpated, it nevertheless recovered and occupied the district of Reshef. The fact that Reshef was made the ancestor of Joshua-bin-Nun points to the probability that it was his clan which settled in this area.

The land of Reshef was visited and identified about eighty years ago by

the brilliant young Frenchman, Charles Clermont-Ganneau[1]. He toured the country during the years 1873–1874, and came to a village on a high sand dune overlooking the Mediterranean, " north of and quite near to Jaffa ". The village was named Arsûf, in which name he immediately recognized the name of Reshef. Twenty-three years later, Clermont-Ganneau gave the following summary of his theory[2]:

" My theory then set forth of the origin, up to that time unknown, of the town of Arsûf was in brief this:—

1. Arsûf was by its position a town in the territory of Ephraim; proof: Chron. I vii, 20–29, which fills the gap in Joshua. There, in accordance with old Semitic fashion, many of the names of towns are enumerated under the form of eponymous persons[3]. Resheph (רשף) represents letter for letter Arsûf . . . . "

The place has a little harbour which is ascribed to the Romans. The Romans called it Apollonia, and later made it the capital of a district bearing the same name[4]. After the Byzantines had been driven out, the old name was restored. To the Crusaders the town was known as Arsûr; its little harbour was used by the Genoese who occupied one quarter of the city. Arsûr became the capital of the Seigneurie d'Arsûr, the borders of which were almost identical with that of the Roman district: from the river Yarkon (then called river Arsûr) in the south, to Wâdi Falik (the river Roche Taillée) in the north, and from the Mediterranean in the west to Mount Ephraim in in the east[5]. In brief: the region of Reshef extended over the southern part of the Sharon Plain.

IV

After having established the fact that the Ephraimites settled the Sharon Plain according to the tradition reproduced in the Book of Chronicles, it has become much easier to reconstruct the boundary of the Joseph tribes according to Joshua xvi, 6 ff. and xvii, 7 ff.

The southern boundary of Ephraim is identical with that of the two tribes, and outside the scope of this monograph. The border went out to the sea west of Gezer (xvi, 3, 5). After having reached the shore, the border

[1] C. Clermont-Ganneau, *op. cit.* The country around Arsûf is described in Vol. II, pp. 79 ff., 338 ff.

[2] *PEFQ*, 1896, p. 259 (Notes); the quotation is found on page 260. It should be mentioned that the Arsûf visited by him was a little village, which is now re-named Kfar (= village) Reshef. The Crusaders' town of Arsûr has never been rebuilt since its destruction by Baibars, in 1265.

[3] Towns were represented by females. Male descendants represent a region.

[4] M. Avi Yona, *Map of Roman Palestine*, 2nd ed., Jerus., 1940; *Quart.* Vol. V, pp. 139–193.

[5] *Survey of the Pal. Dept. of Antiquities: Palestine of the Crusaders*, 3rd ed., Jerusalem, 1946, with map.

turned north: " And the border went out to the sea, to Michmath in the north " (M.T.); in the LXX: " And the border went out to the sea, to *Ikasmon* at its northern end ".

Both names may be recognized in the names of two neighbouring mounds of considerable size, in the Southern Sharon.

The name *Ikasmon* turned up some years ago among the epigraphical material found at Nimrud during the 1950 season. Among the finds was a fragment of the Annals of Tiglath-pileser III, giving a detailed account of his campaign against Philistia in 734 B.C.[1]. There, the city is called " *Al-Qaspuna* which is on the seacoast ", and seems to have been a fortress. In Semitic languages, the letters *p* and *m* are interchangeable[2] so that the name has been handed down almost unaltered for about 450 years, from 734 B.C. to about 270 B.C. In addition to being interchangeable with *p*, the letter Mem, in Hebrew, might change to Nun, and Nun to Lamed. Applied to the name *(Al)-Qaspuna* the resulting alterations would be *(I)-Kasmon* and/or *(?)-Qas?l.* There is no further difficulty, then, in identifying (I)Kasmon with (Tell) Qasîle, mentioned above as the only mound excavated so far in the Sharon[3]. Archaeological evidence is strongly in favour of this identification. The city was a trade centre with a considerable harbour and certainly an ideal landmark, known to everybody. The rebuilt casemate wall excavated by Maisler in the south of the tell and ascribed to stratum VII (8th century, not later than 732 B.C.) would then be part of the refortification carried out and described by Qurdi-assur-lamur in his letter to the king of Assyria[4]. And excavation has shown that the city was equally alive during the 3rd century B.C.

The present distance of Tell Qasîle from the shore is about 1½ miles. The shore however seems to have undergone various alterations, the latest being an uplift ascribed to Neolithic times, the maximum elevation being estimated at 3 metres. It was further observed that

" at the foot of Tell Qasîle the river-silt extends up to 8 metres above

[1] D. J. Wiseman, " Two Historical Inscriptions from Nimrud ", *Iraq* XIII, 1 (1951), pp. 21–26; H. W. F. Saggs, " The Nimrud letters, 1952 ", Part II, *Iraq* XVII, 2 (1955), pp. 126–154. The name *Kaspuna* had turned up already at the end of the last century when it was read *Raspuna.* B. Maisler identified *Raspuna* with the city of Rashpan=Rishpon mentioned in old Samaritan chronicles. Rishpon, in turn, was identified with Arsuf, the place just mentioned. After the new discoveries at Nimrud by which the correct reading *Kaspuna* has been established, Maisler revoked the tentative identification Raspuna-Arsuf (see B. Maisler, " Massa Tiglath-Pilassar III l'Israel in 732 B.C.", *Bull. Jewish Pal. Expl. Soc.* I (1933), p. 5, and " Raspuna or Kaspuna? " *Bull. Israel Expl. Soc.* XVI, 3–4 (1951), p. 70).

[2] On interchange between *p* and *m* in Akkadian see von Soden, *Gramm.*, para. 21d, 27e, 31 (quoted by Saggs, op. cit., p. 150, 5). For the same in Hebrew see Jehuda Gur, *Milon Ivri*, 7. ed., Tel-Aviv, 1952, p. 782. For changes of Mem to Nun to Lamed: ibid., pp. 466, 601.

[3] See above, p. 59.

[4] Maisler in *Isr. Expl. Journ.* I, 2, p. 73 (op. cit.); Saggs in *Iraq* XVII, 2, p. 127, Plate XII.

sea level. This shows that the waters of the river used to reach a similar high in the past. These 8-metre alluvial deposits are found within a little more than one km of the sea, a height now well above the flood plain of the river; hence it is clear that the past geological conditions were different from those of to-day "[1].

A similar uplift of the shore-line, of eighteen to twenty feet (6 to 7 metres), has been observed all over the world. According to Professor Daly of Harvard, the cause is to be found in a " recent world-wide sinking of ocean level " estimated by him to have occurred some 3,000 to 4,000 years ago[2]. Twenty-five years later, Daly's claim was confirmed. After detailed field work carried out at the shores of the Netherlands and Eastern England, the time was estimated " as roughly 3,000 to 3,500 years ago "[3].

The deduction of 3,000 to 3,500 years from A.D. 1956 gives the 11th to 15th century B.C.—the very period dealt with in this paper.

In other words: at the beginning of the conquest the very place where Ikasmon was built in the 12th century B.C., might have been right upon the seashore, or even still under water. If there was a Bronze Age city—as reported in the M.T.—it should be looked for at a higher place somewhere in the same perimeter.

The walled cities of old were surrounded by open land which was under their jurisdiction. Town areas must have been rather considerable as the M.T. speaks time and again of " a city and her daughter-cities ", i.e., townlets inside the town's area and ruled by the mother-town. Assuming that the river Yarkon offered a natural boundary to the south, the area of Ikasmon must have mainly stretched along the sea-shore in a northerly direction.

Going north the high sand dunes bordering the sea are suddenly cut across in an east-west direction by a deep canyon, the Wadi el-Gharbi. The distance from Ikasmon is about 4 miles and seems adequate for the length of a town's area, in one direction. The wadi offers an ideal natural boundary, and might have been used for marking the northern end of the town's area (to-day, incidentally, the northern boundary of Tel-Aviv area runs around here). On the southern bank of the wadi, i.e., in the north-western corner of the city area of Ikasmon, a mound stretching over several sand dunes rises to about 90 feet above sea level. It is called Makhmish, preserving the name Michmath letter for letter according to Hebrew spelling[4]. The mound is covered with tens of thousands of sherds from Early, Middle and Late Bronze, Iron Age, and the Persian and Hellenistic periods. When it was discovered,

[1] M. Avnimelech, " The Geological History of the Yarkon Valley and its influence on Ancient Settlement ", *Isr. Expl. Journal*, I, 2, pp. 77–83 (quotation from p. 78).

[2] R. A. Daly, *Our Mobile Earth* (1926), p. 178. Quoted in I. Velikovski, *Earth in Upheaval* (New York, 1955), p. 182.

[3] P. H. Kuehnen, *Marine Geology* (1950), p. 538, quoted by Velikovski, ibidem, p. 183.

[4] Spelt: Mem–Kaph–Mem—Tav. The pronunciation of Tav (*th*) vacillates between *t* (among Sephardic Jews) and *s* (among Askenazic Jews) till this day.

about 10 years ago, two altars, an acropolis and extensive graveyards could clearly be distinguished. The mound has not yet been excavated and is a happy hunting ground for all antiquity fans from Tel-Aviv and its surroundings.

Mr. Ori, the discoverer of the mound, holds it to have been the city of Reshef-Mikhal, i.e., Reshef Omnipotens, *M-k-m* being equal, linguistically, to *M-k-l*. In a bilingual inscription discovered in Cyprus Reshef-Mikhal is identified with Apollo-Amyklaios which is usually understood to mean Apollo from Amyklae. The identification of Mr. Ori[1] appealed to reason and the place has since been identified with the Rashpan of the Samaritans[2]. Only a thorough excavation may show, however, whether the suggestion of Mr. Ori has been correct, and whether Makhmish was at one period the city of the omnipotent deity of Rashef[3].

[1] The author wants to use this opportunity for thanking Mr. Ori for the generous way in which he put all his observations concerning this mound at her disposal.

[2] See above, p. 65, n. 1. On a map prepared for the archaeological exhibition held at the Tel-Aviv Museum in 1946, the mound of Makhmish was shown under the name *Rashpuna*.

[3] The theory that the territory around the Yarkon was settled by Ephraim, though originally allocated to the tribe of Dan, is supported by the statement in the LXX that Dan was prevented by the Amorites from settling in its inheritance. Thereupon, Ephraim put the Amorites to taskwork (Josh. xix, 47a, 48a).

To be continued

A NOTE ON TWO SEAL IMPRESSIONS FROM TELL ES-SULṬAN

By P. C. Hammond

In the 1955 joint expedition of The British School of Archaeology and The American School of Oriental Research at O.T. Jericho, two seal impressions were found, both from the N–S trench at the far NNW end of the tell.

1. *Sherd, with stamp-seal impression* (*JPO* 5.1; No. 1291)

The archaeological context of this sherd, as well as the sherd itself, was clearly the Iron Age II, as previously seen at O.T. Jericho[1].

The impression on the sherd, made before firing, was that of an oval stamp (2·25 cm. × 1·6 cm.), with a slightly concave face. The stamp was well cut, with the letters in reverse.

The inscription, of two lines of Hebrew characters, separated by a heavy, single line (but without a border), reads as follows[2]:

צגנד	ṢGND
אוריו	'WRYW

The personal name of the second line of this seal impression presents no problem. It (in various forms) is well known in the O.T. (Jer. 26 : 20, Neh. 3 : 4, II Sam. 11 : 3, Isa. 8 : 2), where it appears as אוריה or אוריהו but never with the elision of the *he*.

This hypocoristicon (*–yw* for *–yhw*) is well attested in other O.T. Hebrew names and on seals and ostraca from the Israelite Period, and has been discussed at length by a number of scholars[3].

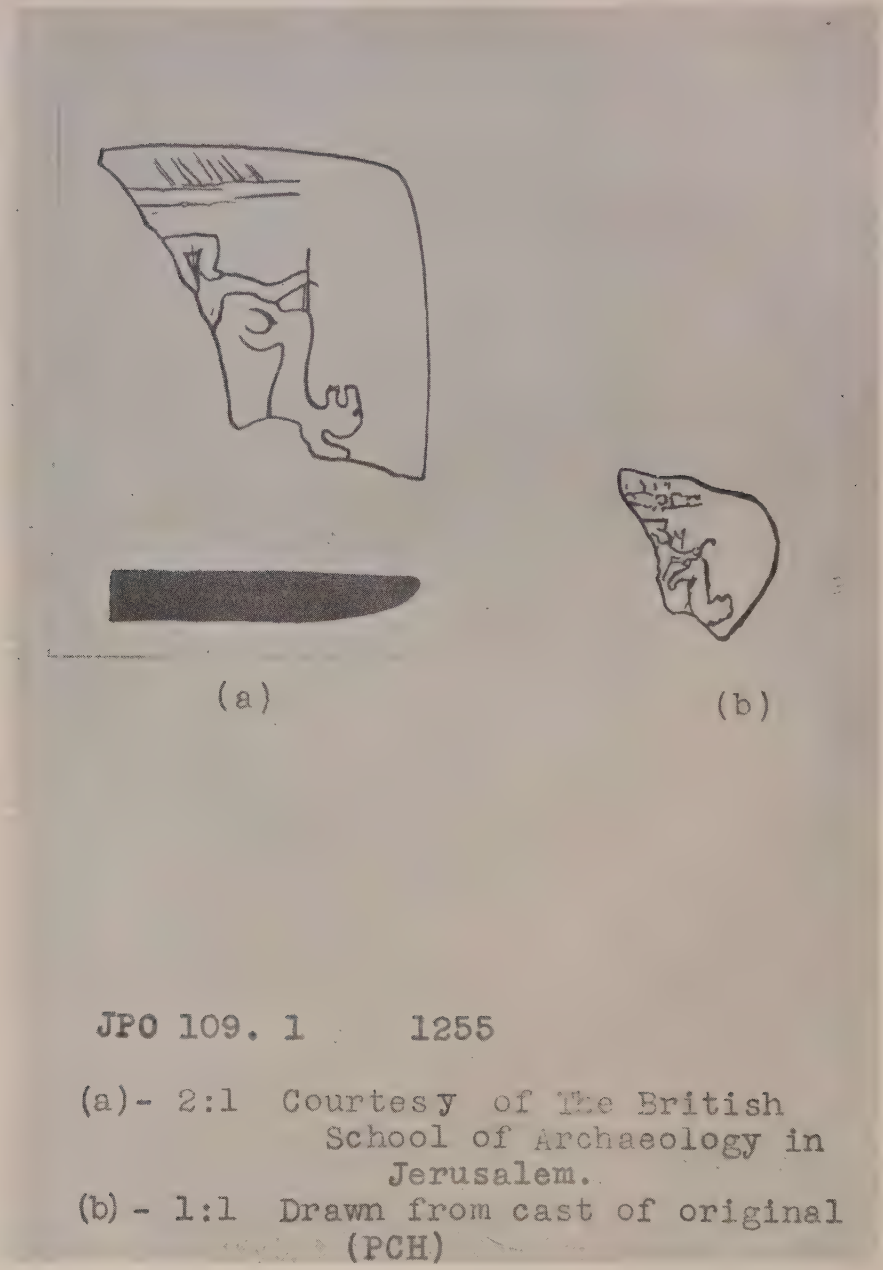
The first line of the impression *does* pose a question, however. I can find no parallels for a personal name, nor can I offer a solution in the form of a relative term or *nomen professionis*, one of which would be expected on such a seal-type

[1] K. M. Kenyon, *P.E.Q.*, 1953, pp. 81–95.

[2] The reading ṢGWR in the first line remains a possibility, but the reading above seems to be preferable.

[3] *E.g.*, in M. A. Levy, *Siegel und Gemmen*, Pl. III, 5 and pp. 40 ff., 54; H. Vincent, *Revue Biblique*, LVI, p. 277, note 4 (citing also Tell Judeideh examples); also—D. Diringer, *Le iscrizioni antico-ebraiche Palestinesi*, the ostraca from Samaria, Nos. 1, 2, 4, 5, 6, 13, 14, 16a, 17a, 18, 21, 30, 33, 34, 35, 41, 42, 48, 49, 50, 52, 58, pp. 23, 24, 26, 27, 29, 30, 32, 34, 36 and 39–40 (with note 4) and seals Nos. 13 (Pl. XIX, 13), 38 (Pl. XX, 8ab), 65 (Pl. XXI, 2), 67 (Pl. XXI, 4) and pp. 221, 223; W. F. Albright, *BASOR* No. 71, pp. 24–25; M. Noth, *Die israelitischen Personennamen* . . . pp. 90, 222 and esp. 107; See also *BA*, 1951, p. 47 (fig. 9—from Tell Qasîle ostracon—but it may not be the same hypocoristicon); A. Reifenberg, *Ancient Hebrew Seals*, p. 17, attributes the "*yw*" form to N. Israel—but the Jericho seal would agree with Ginsberg.

Sherd, with Stamp-Seal Impression.



Clay Jar Sealing Fragment (?), with Cylinder-Seal Impression.

in this period. The lack of a *lamedh* before, and a relative term after this first line can be paralleled elsewhere, but the line, itself, remains obscure.

Reifenberg[1] saw non-pictorial stamp-seals of this type as belonging to the later Hebrew period (as " typically " Judaean, from the 7th and 6th centuries B.C.), and disappearing in the 5th century B.C. In the case of the Jericho seal impression, there seems to be nothing in the archaeological context, the epigraphic style (which may be archaized, but actually a later form), or the seal-type, to preclude a similar date range, extending into the early Post-Exilic period.

2. *Clay jar sealing fragment (?), with cylinder-seal impression* (*JPO* 109; No. 1255)

This fragment came from a small pit cutting into the Iron II levels. It apparently served as a jar sealing, judging from the appearance of the back of the fragment, but its small size precludes any final judgement on this question.

In spite of the fragmentary nature of the sealing, however, certain things are evident about it. It was made by a cylinder (the face of the impression is curved along its length) about 1·90 cm. in height. The break in the piece prevents any estimate of diameter.

The sealing is pictorial, showing a standing, draped, male figure facing right, grasping a feline (probably a lion) by the tail with the left hand, arm outstretched. Above the male figure is a winged solar-disc (perhaps with a figure seated on it, but impossible to say with certainty).

The male figure wears his hair in a " bun ", protruding from beneath a low, flat headdress. There seems to be an oblong object (quiver?, wing?) extending upward from the figure's left shoulder, but its exact nature is not at all clear.

No detail of the garment is visible, except for the shoulder and left sleeve, because of the break in the impression.

The feline has its head turned upward over its back, with the mouth open (roaring), while its feet paw the air.

From motif, modelling, hair style and headdress, the cylinder which made this impression is definitely foreign, and quite obviously Achaemenid Period[2] (which also may suggest a provenance)[3].

[1] Reifenberg, *op. cit.*, p. 17.

[2] Cf. *Collection de Clerq*, II, Pl. III, esp. No. 62 and No. 56; also Levy, *op. cit.*, Pl. I, No. 2; and W. Ward, *The Seal Cylinders of Western Asia*, No. 1100, No. 1111, No. 1109, pp. 336–7 and p. 398; also E. Van Buren, *Symbols of The Gods in Mesopotaiman Art*, p. 103.

[3] The photographs and permission to publish the above materials are through the courtesy of Dr. K. M. Kenyon, Director, The British School of Archaeology in Jerusalem.

EARLY CHRISTIANITY IN EGYPT[1]

By J. M. Plumley

The period covered by this paper is from the 1st century until the Council of Chalcedon in 461 A.D. when the Church in Egypt became separated from the rest of Christendom. It does not lie within the scope of this lecture to deal with the long and checkered history of the Egyptian Church—usually known as the Coptic Church—during the 200 years prior to the Arab invasion, and the 12 centuries which have elapsed since that event.

In his *History of the Copts* written in 1899, the author Ya'kub Nakhbah Bey Fufilah, a native Egyptian, states: " The appearance of the Christian faith and its introduction into our country in the middle of the 1st century after the birth of Christ came about through the preaching of St. Mark the Evangelist, which preaching was followed by the conversion of multitudes of the people ".

In contrast to this statement, Scott Moncrieff in his book *Paganism and Christianity in Egypt*, a careful and scholarly study published some two years after his early death in 1911, says: " When and how Christianity was first introduced into Egypt is quite unknown. The tradition which makes St. Mark the first preacher of the Gospel in Alexandria is probably of the third century and has no historical foundation, although it was widely reserved after the first ages of the Church and continues to this day ".

Now, while it is true to say that up to the present we do not possess any first-hand evidence for the existence of Christianity in Egypt prior to the second half of the 2nd century, nevertheless from indirect evidence it may be argued that it would seem probable that quite early in the second half of the 1st century some knowledge of the Christian faith had reached Egypt. It is significant that by 180 A.D., when the Church in Alexandria appears in the full daylight of history, it is a flourishing institution with an organisation and school of higher learning attached, which must have already made its influence felt far beyond the city itself. It hardly seems that such was the result of a mushroom growth.

The years prior to 180 A.D. have been summed up briefly as tradition and silence. There may not always be silence. Perhaps an archæological discovery may suddenly throw light on this dark period. For the moment however we can glean what we can from secondary sources.

[1] A public lecture delivered under the auspices of the Palestine Exploration Fund, January 30, 1956.

Alexandria, the chief city of Egypt, was one of the most important cities of the ancient world. Its foundation had been Greek and, not unnaturally, it numbered amongst its citizens a very large population Greek by birth and speech. But it was a cosmopolitan city. A very large Jewish community dwelt in Alexandria, and it would be strange if it had not attracted large numbers of native Egyptians. Famous as a centre of higher learning, it was also a great mercantile port, most noted for its export of grain to most of the Mediterranean world. When one considers how quickly the preaching of the Gospel spread to the other great cities of the Empire, it would seem scarcely probable that no hint of the new faith was brought to Alexandria. It is not unreasonable to suppose that news of Christianity may have reached Alexandria by two ways—by way of Gentile converts to the Greek citizens, and by way of the Jewish Christian Church in Jerusalem to the Jewish community in Alexandria. There is no certainty on this supposition, but it is worth recalling that from Alexandria came the learned and eloquent Jew Apollos mentioned in the 18th chapter of the Acts of the Apostles and in St. Paul's 1st epistle to the Corinthians. The famous *Codex Bezæ*, an early uncial, bilingual manuscript of the New Testament, now at Cambridge, contains the interesting reading that Apollos, in fact, received his instruction in the way of the Lord in his own fatherland—*i.e.*, in Alexandria. If any credence can be given to this reading it does suggest that Christian teachers had reached Alexandria by the beginning of the second half of the 1st century, if not a few years earlier.

The tradition that St. Mark preached the gospel in Alexandria is first mentioned by Eusebius the 4th century Church historian. It is possible that Eusebius based his statement on an earlier history by Julius Africanus or some other older authority, but he is careful to introduce the tradition of Mark's preaching with the words " they say ". Eusebius also mentions that St. Mark appointed Annianos as his successor over the care of the Church in the 8th year of Nero, *i.e.*, A.D. 61-2. Jerome, the translator of the Vulgate, probably misunderstood Eusebius in that he states that Mark was martyred in Alexandria in the same year. He adds that the body of the Evangelist was buried in the city, and it was long believed that this was in fact the case, the main Church of Alexandria being dedicated to the Saint.

It has been pointed out that neither Clement nor Origen, the great Christian writers of the Catechetical School of Alexandria at the end of the 2nd century, make any reference to the tradition of St. Mark in their writings. While this is a serious argument against an early date for the tradition, it must be remembered that it is never safe to argue from silence. What is well known and widely believed is often taken for granted. It may well be that neither Clement nor Origen thought it necessary to mention what was generally accepted in their time.

Leaving on one side the value of the tradition of St. Mark, but allowing the possibility that Christian teachers came early to Alexandria, why is it

that we know so little of the dark years before 180 A.D. As Mr. C. H. Roberts has said in a valuable article, "Early Christianity in Egypt", in a recent number of the *J.E.A.* (Vol. 40): "Of recent years it has become fashionable to solve the mystery which surrounds the early history of the Church of Alexandria by the discovery that it did not exist; such Christianity as there was was Gnostic and the 'Great Church' did not succeed in taking hold there until the end of the second century, and then was probably grafted on to this doubtful stock by Rome".

Certainly the period is dark, the question why there is no direct evidence may be answered by another possible solution than that that the Church did not exist. In the year 116 A.D. when the Emperor Trajan was engaged in a campaign in Parthia, having withdrawn a large number of the Roman troops from Egypt, a revolt of the Jewish population in Cyrene and Egypt broke out. There had always been hatred between the Greeks and the Jews, and the bitterness showed itself in the savagery which characterised the Jewish war. At first the Jewish armies overran large parts of the Delta, and succeeded in driving the Greeks into Alexandria where for some months they were besieged. At last Trajan sent a Roman army under Marcus Livianus Turbo to deal with the situation. The long and stubborn conflict ended with the virtual extermination of the Jews and the loss of their privileges. It is not impossible to suppose that the Christians were associated in the popular mind with the Jews and suffered in the appalling massacres which ended the war. If this supposition is true, then it is not surprising that few pieces of specifically Christian evidence are forthcoming for the latter half of the 1st century and the beginning of the 2nd century.

Early in the 2nd century there sprang into being that strange religious system which has received the name of Gnosticism. Some explanation of the term is called for here. It sprang into being as the result of the preaching of the Christian Gospel; but it maintained that the message of the Gospel was twofold. On the one hand it was addressed to the simple folk who merely needed guidance in life; and, on the other hand, it was intended for those who were enlightened and worthy of understanding profounder mysteries. Gnosticism was in fact an adaptation of Christianity to the needs of those who had a better spiritual apprehension (*gnosis*) than ordinary folk. It aimed at constructing two Christianities—one popular, one aristocratic. In Egypt, which for so long had been regarded as the home of mystery and magic, the Gnostic teachings made a wide appeal to those who desired a knowledge of secrets and wished for occult authority which could force the unseen powers to bend to the will of those who employed such authority and secrets. Gnosticism promised to its devotees purity from sin and even held out the possibility of obtaining immortality. There is unmistakable evidence for Gnostic activity in Egypt in the middle of the 2nd century (to mention only two names, Basilides, who was active in the reign of Hadrian, and Valentinus, who flourished a little later, were both Egyptians, the latter being born in Arsinoe).

While it is true we have for this period of Gnostic activity no direct evidence for Orthodox Christianity in Egypt, it does seem that there is something topsy-turvy in assuming that heresy arrived on the scene first, and was followed later by orthodoxy. It is worth remembering that Valentinus is described by the Christian writers as originally a Christian; speculation led him to propound a system which was too rarefied for practical religion. The early Fathers who wrote against Gnosticism selected him above all others for refutation. In recent years a great find of Gnostic manuscripts written in Coptic has come to light in Egypt at Deir Chenoboskion. Of this find one codex, containing Valentinus' *Gospel of Light*, has recently come into the possession of the Jung Institute in Zurich, and the contents are in the course of preparation for publication in the near future. We shall then be able to read first hand something of the speculative work of this remarkable man, whom the great Alexandrian Christian teachers Clement and Origen seem to have held in some esteem though differing from his opinions. What is also important is the fact that these Gnostic teachers quoted from the New Testament writers, thereby disproving the theory of a late date for much of the New Testament, and indicating that in the early years of the 2nd century the greater part of the New Testament was already in circulation.

We may suppose that during the 2nd century Christianity was growing in strength and influence in Alexandria. It is difficult otherwise to account for the rise of the famous Christian Catechetical School of Alexandria, which by the end of the 2nd century had produced such famous teachers as Clement and Origen. From the historian Eusebius we hear that Demetrius had succeeded as Archbishop of Alexandria in 188/9 A.D. and that his occupation of the see lasted until 231 A.D. A little must be said of the two most famous names connected with the Christian centre of higher learning which flourished during the Episcopate of Demetrius. First Clement. He had been converted to Christianity, possibly when a young man. We know that in Alexandria he came under the influence of Pantænus, his predecessor as head of the Catechetical School. To the service of the Christian gospel Clement brought a wealth of Greek learning. His writings disclose a regular scheme of progressive teaching. He deals first with the rudiments, and goes on to the higher mysteries of religion. He claims to be a gnostic, not in the sense of a heretic, but as an enlightened Christian. Indeed his system, which bases knowledge on faith and morals, was the death blow to Gnosticism proper. No one, it has been said, has had a nobler ideal of Christian education than Clement. A charming little book entitled *Pædagogus*, *The Tutor*, written by Clement towards the end of the century, treating among other things of good manners for Christians, is well worth reading today not only because of the light it throws upon contemporary life in Alexandria, but for its pertinent comment on the manners of our own time.

Origen (185-254), Clement's pupil, and possibly the boldest thinker in the whole history of Christendom, was a Christian by birth. Earnest

Christians as his parents were—Leonides, his father, was martyred in the persecution under the Emperor Septimius Severus (202 A.D.)—they gave their son the best education of his age, and put him through the whole course of Greek studies. Eusebius tells the touching story of how the father used to rebuke the boy for his precocious inquisitiveness, but at night used to watch him as he slept and thank God for giving him so wise a son. As he grew to manhood, Origen, in a succession of published works, gave increasing evidence of his giant intellect. He is the first early critical Christian scholar, and famous for the labours he devoted to produce a correct text of the Greek Bible (the LXX translation of the Hebrew text). In later centuries when learning was decaying and a standard of rigid orthodoxy was being erected, Origen became suspect of heresy; nevertheless it has been rightly observed that every great man has loved Origen a little.

It is in Origen's work that the first reference to the Egyptians as Christians —as opposed to the Greeks—is found. Eusebius mentions in his history that in the persecution of Septimius Severus (202 A.D.) Christians from Egypt and from the region of Thebes were brought to Alexandria and there martyred. Perhaps we are to understand by " Egypt " the provinces of the Delta, and by " Thebes " the southern part of Egypt. The martyrdoms of 202 A.D. might be said to usher in the Century of Persecution which culminated in the oppression of Diocletian which had a profound and lasting effect on the character of the Christians of Egypt. It must not be thought that the persecution continued unchecked throughout the 3rd century. Apart from a persecution aimed at the clergy by the Emperor Maximinus (235-237 A.D.) there was peace in Egypt until the accession of the Emperor Decius when in 250 A.D. a severe onslaught was made on the church. It too was aimed at the clergy but the laity suffered. Dionysius was at this time Archbishop of Alexandria. A former pupil of Origen, he had become Archbishop in 247-8. Much of his correspondence was preserved by Eusebius in his history, and from his letter we can gain a vivid impression of this great and good man who ruled over the Church in Egypt in the troublous days of the Decian Persecution. Of him it can be truly said that he showed unflinching courage in danger, and displayed great learning and wisdom together with large hearted charity and moderation such as is unusual in ecclesiastics of any age. He is the first of whom it is explicitly recorded that he was interested in the conversion of the native Egyptians. This is not to say that there had been no preaching of the Gospel to them before his time, but that he seems to have been the first Archbishop to organize the mission work systematically outside Alexandria and its immediate neighbourhood. It is possible that an official translation of the scriptures into Coptic, the language of the native Egyptians, was undertaken by his encouragement or during his Episcopate.

From Dionysius' letter to Fabius, Bishop of Antioch, which Eusebius has preserved in his history, we learn that the Decian persecution did not begin with an imperial edict, but preceded it by a whole year. In Alexandria

an unnamed prophet and poet excited the pagan population against the Christians. Some well-known Christians were martyred, many were subjected to insult and injury. Nearly all who were known to be Christians suffered the loss of goods and homes. Dionysius likened the scenes of damage and despoiling in Alexandria to those of a city taken and sacked by an enemy army.[1]

In the following year the imperial edict for persecution arrived in Egypt, and the terror broke out afresh. The edict compelled all and sundry to sacrifice publicly to the gods, and commissions were instituted in every town and village to see that the edict was carried out. On this occasion persecution was so fierce that numbers of Christians renounced their faith and made the formal act of sacrificing to the genius of the Emperor. To all who had been suspect and who had recanted (*i.e.*, made public sacrifice to the gods) certificates of sacrifice were issued by the commissioners. The certificates were known as *libelli*. Several of these *libelli* have survived and it is probable that we have in them the actual documents possessed by Christians who, in public at least, had recanted their faith, and were certified by the commissioners as having duly conformed to the pagan sacrifices. These *libelli* follow a stereotyped form, for it would appear that they were forms written out by official scribes with blanks left for names, which were in some cases filled with badly written signatures.

The following is an example of one of these *libelli:*

" To the superintendents of the sacrifices of the village of Alexandrou Nesos from Aurelius Diogenes, son of Satabous of the village of Alexandrou Nesos, aged about 72 years; scar on his right eye.

It has always been my custom to sacrifice to the gods, and now also in your presence and according to the edicts I have sacrificed. I have poured libations. I have tasted the offerings and I pray you certify. Fare you well. I Aurelius Diogenes have set it forth.

I, Aurelius Syrus, certify that Diogenes sacrificed at the same time as we did. Year I of the Emperor Cæsar Gaius Messius Quintus Trajanus Decius Pius Felix Augustus. Month of Epiphi, day 2 ".

There is evidence from other sources that many Christians did obtain *libelli*. An oft-quoted letter of Cyprian, Bishop of Carthage, speaks of three classes of the feebler Christians who succumbed and sacrificed through fear of martyrdom during the Decian persecution. The first class consisted of those who had burned incense, the second of those who had sacrificed, and lastly those who salved their conscience by outwardly conforming to the edict and obtaining a certificate. It appears from Cyprian's letter that it was possible

[1] Dionysius (quoted Eusebius vi 42): Nor shall I mention the multitudes that wandered about in deserts and mountains, that perished by hunger and thirst and frost and diseases, and robbers and wild beasts. Their survivors are the witnesses both of their election and their victory.

to obtain a certificate without actually taking any active part in the sacrifice either by touching or eating the polluted offerings. For this reason Cyprian pleaded for clemency to be shown to those who had obtained *libelli* rather than to those who had actually taken part in the sacrifices. There is every suggestion that the enforcement of the Edict of Decius was performed outside of Alexandria in a perfunctory manner, and that well-placed bribes saw to it that the whole business was carried through in a typical Oriental and casual way.

During the rest of the 3rd century there were sporadic outbursts of anti-Christian persecution but it was not until the end of the century that the storm burst in all its fury on the Church in Egypt.

Concerning this period at the end of the 3rd century the Coptic writer Ya'kub Nakhbah Bey Rufilah writes:—

" Memorable were the persecutions and cruelties inflicted upon the champions of the Faith, especially the persecutions raised by Diocletian, Emperor of Rome, against the Christians throughout the world, and in particular against the Egyptians, whether they were Copts or Romans by birth. Wherever Diocletian went he attacked the Christians, slew them, destroyed their Churches, inflicted punishments upon their leaders, and made slaves of their women and children. It was because of the prodigies of cruelty and the severe persecutions of all kinds which the Copts experienced from him at that time, that they began to date events from the first year of this savage Emperor, that it might be a memorial to their children, who would be reminded that their religious freedom was bought by no less a price than the innocent and precious blood of the Martyrs. Among those who were slain in this persecution was Abba Peter, Patriarch of Alexandria, who is called the last of the Martyrs . . . The Era of Diocletian, more commonly called the Era of the Martyrs, which has been employed by the Coptic nation since that Epoch, began in the year 284 A.D."

These words were written at the end of the nineteenth century, 1300 years after the events to which they refer. But they were written by a Copt whose forefathers suffered in the reign of the Emperor Diocletian, and as the author states, the memory of that fiery trial has never perished in the minds of the Christians of Egypt.

For the horrors of the persecution which bears his name, Diocletian can hardly be held responsible. In fact he seems to have done all he could to prevent the persecution, nor did it break out till just before his abdication. Galerius, who was about to succeed him, is said to have instigated it, insisting that the Christians in the army were disloyal. The pagan philosophers were certainly anxious to encourage an attack upon the church. Superstition made persecution popular. Unwillingly Diocletian issued an edict and for the best part of ten years the attempt to destroy Christianity continued. Churches were demolished. *The Scriptures were seized and burnt.* The clergy were arrested, and as the strife increased, the number of the martyrs multiplied.

(This calculated policy of destruction of Christian writings goes a long way to account for the lack of written evidence prior to the 4th century.) In no other country was the persecution so ruthlessly carried out as in Egypt. The author of the country's misery and woe was universally believed to be the Emperor Diocletian. He was the great persecutor—he was the anti-Christ foretold in the Apocalypse—the personification of evil, the offspring of the devil.

In later Coptic literature no words are too bad to describe Diocletian. Thus, in the Encomium of Archbishop Theodore on Theodore the General, when the martyr Theodore of Anatolia remembers Diocletian's rule and the evil which he had wrought in Antioch, he addresses the Emperor: "I continually curse you. I revile you. I despise you, evil, blood-shedding lion, bear for ever drinking blood, dragon from the abyss."

Of the origin of the hated Emperor the same Coptic manuscript tells the story that he was born of ignoble parents, that his name was originally Akrippita, and that his occupation was a goat-herd. He was summoned by an officer of the king of that time to fight in the war against the Persians. He was stationed at Antioch where he was seen by the daughter of the king who fell in love with him. After the death of the king in battle the princess contrived, by bribery, that her base-born lover should be made king in his stead.

While the persecution raged the different Emperors fought for the mastery of the world. The whole system of government which Diocletian had built up dissolved. It was the persecuted Church which emerged as the dominant power in the Empire. In 313 Constantine, the victor in the Emperors' war, published his decree of toleration. It was the end of organised persecution by the Empire. But in Egypt persecution had brought about the last thing which Diocletian's colleagues had ever foreseen, a great upsurge of religious feeling which resulted in an extraordinary and rapid growth of the Church.

The outstanding figure in the first three centuries is the martyr. From the 4th century onwards it is the theologian. The Egyptian Church never forgot the martyrs. It is not without significance that a very great part of the extant religious literature of the Egyptian Church consists of accounts of the lives, acts and deaths of various martyrs. There is not time to assess the influence of purely nationalist feelings on the growth of the Church. Certainly nationalist sentiments influenced the later history of Christianity in Egypt. What seems quite certain is that the Christian Faith, which during the first two centuries was probably confined to the Greek speaking population of Egypt, by the end of the 3rd century had spread rapidly throughout the Nile valley. Paganism still lingered in many places and in Alexandria, but the old gods were dying, the ancient creeds were played out.

At this moment in history there sprang into birth a new and momentous movement, which, though purely Egyptian in origin, was destined to mould the fortunes of Christendom for nearly a thousand years. This new thing

was Monasticism. Without doubt the persecutions of Decius in 250, and the spasmodic outbreaks after that date, culminating in the Diocletian storm, caused many Christians to flee from their homes and to seek refuge in the desert which bounded the Nile valley on the east and the west. In the majority of cases it was only a temporary sojourn. Nevertheless it would be reported that in the desert Christians not only found safety, but also a solitude unknown in the busy world of the Nile valley. Some would be attracted by the solitude with its opportunities for meditation and prayer. But even those few would have inherited their forefathers' dread of the desert as a haunt of evil spirits and strange hostile things. This last point is important to remember when considering the monastic life. Those who became monks went into the desert not only to find solitude but also to wrestle as Athletes of Christ against the powers of darkness which dwelt there.

The most famous, and in a sense the founder of the ascetic movement was St. Anthony (251-354). He was a young man of wealth, a native Egyptian, ignorant of Greek. Hearing the passage of the Gospel read which relates how Jesus told the young man to sell all and follow him, Anthony determined to obey. Leaving his home, he retired into the deserts towards the Red Sea. It is said that he visited an earlier hermit Paul, who had retired to the desert during the Decian persecution, and learned from him much about the solitary life. He then withdrew further into the desert, and in complete solitude began his life as a hermit. News of him spread. His example was contagious. The further he withdrew into even more inhospitable solitude, the more seekers after religion followed him, till the deserts became peopled with his disciples. Communities of hermits sprang into being, often with a Church in which the hermits assembled on Saturdays and Sundays for worship. A certain amount of organization was gradually developed and leaders of communities were appointed. But there were always two classes of monks, (i) those who lived alone, hermits, only occasionally meeting for common worship; and (ii) monks who lived in an organized community. Only few men could endure the austerities and loneliness of the hermit life. Some went mad. Some returned to the world and indulged in every kind of excess. Some practised the most extravagant forms of asceticism. It was only rarely that utter solitude resulted in spiritual gain. For this reason the founding of a community life came about through the genius of another native Egyptian, Pachomius. Anthony had called men to renounce the world. Pachomius showed how that renunciation was possible for ordinary men and women. He recognised that the failures of many of the early hermits were mainly attributable to idleness. To forestall the temptations induced by inactivity, he made manual labour an indispensable part of community life, and thus his monastery became a hive of industry. The rules of his order were said to have been delivered to Pachomius by an angel. Each monk was to eat and to drink according to his strength, and proportionate tasks were to be allotted to him. Three monks were to live in each cell. They were to attend a common

refectory for meals. Each was to wear a goatskin cloak. Twelve prayers were to be said in the day time, twelve when the lamps were lit, twelve at the night vigils, and three at the ninth hour. It is said that when Pachomius objected that the prayers were too few, the angel replied that he was not legislating for perfect monks. On the imperfection of monks Skenonte, the great Abbot of the White Monastery near Akhmim, in the 5th century, and the outstanding native writer in the Coptic language, had much to say in his sermons and exhortations. It must not be overlooked in this connection that as the monasteries grew in number and in importance they became havens of refuge not only for the seekers after the salvation of the soul but also for those who wished to avoid their obligations in the secular world outside the monasteries. It is significant that the increase in the monastic establishments coincided with the economic decay of Egypt.

Imperfections there were, but it is hardly possible to exaggerate the regard with which this mode of life was held. Egypt was visited by almost all Christians of eminence. John Cassian, probably a native of Gaul, stayed in northern Egypt for years, going from one ascetic to another to learn the secret of his piety. Palladius, the biographer of Chrysostom, wrote his Lausiac History, a series of accounts of distinguished hermits. Jerome and the great Roman ladies who accompanied him to the east went to Egypt to learn the principles of monasticism before settling at Bethlehem. In Cappadocia the Bishop Basil organized monasticism in his province, and gave it his famous " Rule " which remains to this day the foundation of the monastic life of the Orthodox Greek Church. The monastic ideal was dominant in the minds of almost all the great Fathers of the Church at the end of the 4th century, and for many centuries later. The cessation of persecution by the Edict of the Emperor Constantine and the imperial recognition of the Church promised an era of quiet and growth for the Christian Faith. It was not to be so, for at that moment the Church was faced with a peril even more deadly than persecution. This was the peril from within, the peril of heresy. This heresy was that known as Arianism which had first been propounded by Arius, a priest of Alexandria. Briefly the heresy consisted in the statement that Christ, the second person of the Trinity, was a creature created by God, most certainly the highest and most eminent of all the creations of God, but that he was not God in the sense that God the Father is God. Against this view the Church maintained, as it has continued to maintain in the Nicene Creed, that Christ was the only begotten son of God, " begotten of his Father before all worlds, God of God, Light of Light, Very God of very God, begotten not made, being of one substance with the Father ".

For a time it seemed that the reasonable doctrine of Arius would sweep the world. But as Thomas Carlyle, who at one time made merry over the disputes by which the Christian world was divided at this period, came later in life to recognize: " If the Arians had won, Christianity would have dwindled into a legend ".

The champion of Orthodox Christianity was found in Egypt—this was the indomitable Athanasius. Though Greek by education—he received a liberal education at the Christian Catechetical School in Alexandria—it is not improbable that he was of native Egyptian descent. Certainly he was always well received by the Egyptian monks who had inherited their forefathers' long established suspicion and open dislike of the Greek community in Egypt. For the best part of fifty years the history of the Christian Church revolves around the person of this great Egyptian. Five times he was sent into exile by Emperors who supported the followers of Arius. But in the long years of exile when banishment carried with it the ever present threat of physical violence, and even death, to the exile and those who dared to assist him, Athanasius could always find refuge in the monastic communities of the desert. Many of the monks were ignorant unlettered men, but they not only gave him shelter at the risk of their own lives, but sustained him in hope. It is to their honour and to the glory of the Egyptian Church that when the rest of Christendom seemed to be inclining to Arianism, they never faltered in their devotion and loyalty to Athanasius. In no small measure Athanasius was able in his darkest hour to stand as Athanasius *contra mundum*, and to save the Faith, because the monks and Christians of Egypt stood firm. The age of the martyrs had passed away, now it was the age of the Theologians. The Church of Egypt—of which the greatest number of members were native Egyptians—was interested in action rather than speculative thought. Its support of Athanasius during the long battle against Arianism brought forth a kind of unquestioning loyalty to the Patriarch and, after his death, to his successors. Further, the feeling of nationalism had been growing in Egypt, and the native Egyptians resented the interference of the civil power now based at Byzantium, the new Rome. These three factors, a reluctance for speculative thought, loyalty to the Patriarchate, and nationalist feeling, did not bode well for the Christian Church. While the great Athanasius lived all was well, but on his death in 373, a succession of lesser men who were not without wisdom but were sadly lacking in that charity and humility which had distinguished the great Archbishop, led the Egyptian Church eventually to schism. It is a bitter tale. Political issues and nationalistic feelings played no small part in the sorry story, but it was also the support of numerous zealous but ignorant monks which brought disaster. The first half of the 5th century was a period of violent controversy, violent not only in words but also in deeds. It was a tragedy that during this period the Church of Egypt had as its leaders Cyril and Dioscorus, men of ability but ambitious and utterly uncompromising to their opponents. Both men were painted by their opponents as monsters of iniquity. When allowance for exaggeration has been made, it is quite clear that both men were not adverse to the use of violence to gain their aims. Cyril's undoubted abilities as a theologian have been overshadowed by his assumed complicity in the brutal murder of the pagan woman philosopher Hypatia in Alexandria in 415 A.D.

In justice to Cyril it may be said that there is no certain evidence that he was directly responsible for Hypatia's murder; but he cannot be held entirely guiltless in view of the example he set by his previous violence towards the Jews of Alexandria and the Governor of the city. Cyril's ability and his arrogance were displayed at the Council of Ephesus in 431 when Nestorius, the Bishop of Constantinople, was excommunicated. In 449 Cyril's successor Dioscorus presided at a Council at Ephesus when another Bishop of Constantinople, Flavian, was excommunicated. At both Councils the Patriarchs of Alexandria had come attended by an army of monks whose fierce demeanour terrorized the other Bishops attending the Councils. At Ephesus the behaviour of the monks was such that Leo the Great (Bishop of Rome) declared that it was no council but a *Latrocinium* or a council of Robbers. Flavian received such rough handling at the Council that he died three days later of his injuries. Dioscorus returned in triumph to Alexandria. His triumph was, however, short lived, for in 451 the Emperor Marcian summoned a new Council at Chalcedon. This was the Fourth Council, and at it Dioscorus was condemned on the grounds that he had propounded heresy in saying that Christ was God and man, but that when these two natures were blended in one person, the inferior nature was lost so the Christ was wholly divine, *i.e.*, he had one nature ; μονόφυσις—hence the name of the heresy, Monophysite. The Council of Chalcedon laid down that the two natures were united in Christ, " without change, without confusion, without separation, without distinction ".

It is doubtful whether more than a handful of the Egyptian clergy and monks understood the subtleties of the argument; for them it was a question of loyalty to their Patriarch and the prestige of the See of Alexandria. Dioscorus was excommunicated and sent into banishment, and with him went the whole of the Egyptian church. From the year of Chalcedon may be said to begin the history of the Coptic Church, separated from the rest of Christendom, using the old language of Egypt for its liturgy, and by its isolation preserving much of the primitive practice and ceremonial of the Early Church.

AN ANCIENT SITE IN SWAMP SOIL IN THE EMEK (VALLEY OF JEZREEL)

By N. Tzori

In the course of archaeological survey-work undertaken by the author in the Valley of Jezreel in 1945 a hitherto unnoticed site was discovered in the place where the Wadi es-Sidr is joined by the Nahr Jalud (grid reference 217.1/186.2, block 23082; 52 m. below the sea level). This site is not mentioned by any scholar or traveller, and is not marked on any map. Until the Jewish colonization (1921) the place was surrounded by swamps,

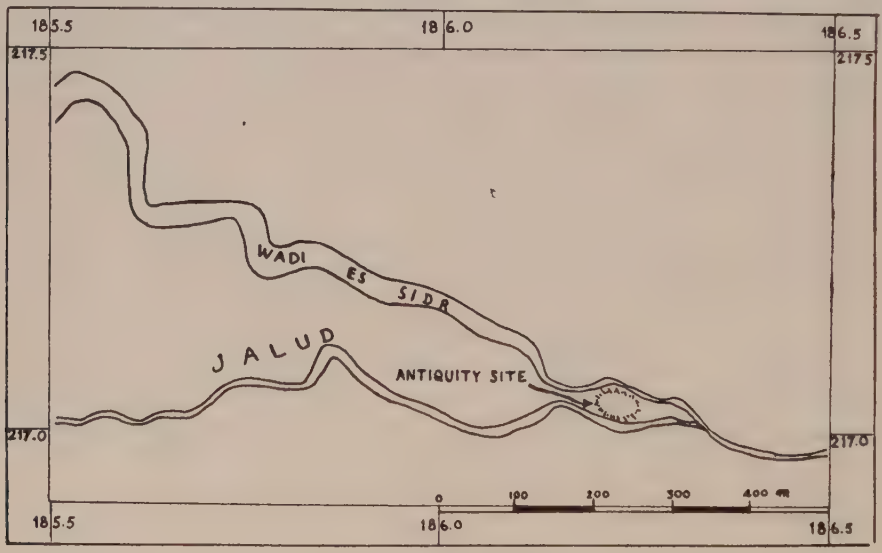


Figure 1

and it seems very likely that during the wet season the water also covered the remnants, though in the present state of things no absolute proof can any longer be furnished for this. The enclosed map (Fig. 1) will show its position on the lands of the village of Nuris, prior to amelioration (1925). After amelioration the ground was divided up for the village of Kfar Yekhezkeel. Before the work, no remnants of buildings were visible on the ground, nor were there any signs of a mound. However, the Jewish villagers noticed stones here and there in the course of ploughing, and later, in 1956, in the course of road-making some stone walling was revealed in the same location. A great many potsherds were, furthermore, picked up here by

the author in the area (*ca.* 50 × 40 m.), attesting habitation from Iron II to the Persian period, beside some earlier material.

Altogether the archaeological evidence is as follows:

Early Bronze Age

Some potsherds with Band-slip decoration.

Middle Bronze Age II

Profiled rims of deep bowls (Nahariya, Q.*D.A.P.* XIV, p. 28, fig. 20: b, c).

A rim of a cooking pot (*Megiddo* II, Pl. 55 : 2).

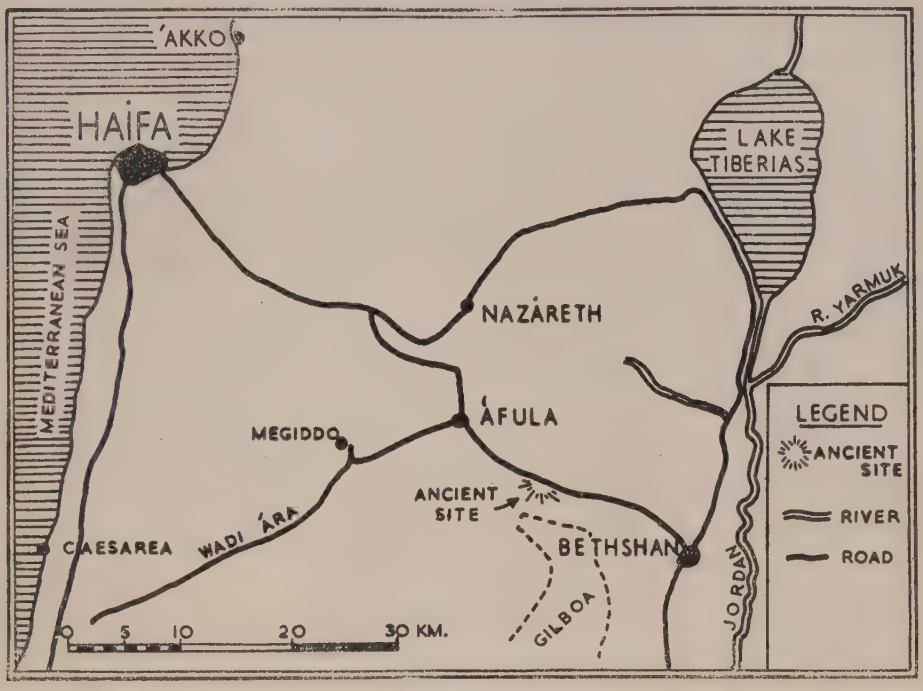


Figure 2

A rim of a bowl, with many white grits (*A.A.S.O.R.* XII, p. 22, §33, Pl. 42 : 5).

A rim of an inverted bowl (*A.A.S.O.R.* XII, Pl. 46 : 1).

Some disc-bases of bowls (*Megiddo* II, Pl. 54 : 17).

Iron Age II

Handles and rims of cooking pots (*Megiddo* I, p. 172, Pl. 39 : 1–12).

Rims of bowls covered with a red ochre and ring-burnished (*A.A.S.O.R.* XII, p. 86, §117, Pl. 62 : 1–20).

Rim of a bowl burnished inside (*A.A.S.O.R.* XII, 86, §117, Pl. 62 : 5).

Rim of a jug (*Megiddo* I, p. 166, §42, Pl. 15 : 76; Tell en-Nasbeh II, 76, Pl. 18 : 304).
Vertical spout of a large jar (*A.A.S.O.R.* XII, p. 80, §106, Pl. 54 : 3; Tell en-Nasbeh II, Pl. 30 : 527).

Persian Period

Rims and bases of large bowls (*Megiddo* I, p. 168, §53, Pl. 23 : 13–16; T. Qasileh, *I.E.J.I.*, p. 211, fig. 13d, Pl. 37d).
Rim of a large bowl covered with black varnish (Attic import).
A flaring rim of a lamp (Tell Abu Hawam, *Q.D.A.P.* IV, p. 4, fig. 5; Tell Qasileh, *I.E.J.I.*, p. 212, Pl. 37 : E).

A part of an alabaster vessel, belonging to Egyptian Import, must be mentioned.

Summary

In the light of the ceramical evidence it is clear that a small settlement was built here during the Hyksos period. It was abandoned during Late Bronze and Early Iron, but rebuilt and flourished during the period of the Hebrew monarchy. It was again rebuilt during the Persian period, but permanently abandoned afterwards. The neglect of aqueducts and springs probably led to the swamping of the region.

Several facts are interesting in this story. *Firstly*, that the periods of habitation attested here are just those when security in the country was good, so that it was possible to live in an unfenced village sited in undefended ground in the lowland. *Secondly*, in the conditions obtaining prior to the reclamation work undertaken by the Jewish settlers, the site, situated in swamp ground, could hardly have been inhabited. Yet the archaeological evidence indicates occupation here up to the Persian period. The changes in environment leading to the present state of things could thus, at the earliest, have begun after that time. The site thus furnishes dated evidence about geographical changes in the country of which it seems worth while taking cognizance.

REVIEWS AND NOTICES

Walls of Jericho. By Margaret Wheeler. Chatto and Windus, 1956. Pp. xiv, 167. $8\frac{3}{4} \times 5\frac{3}{4}$ ins. 21*s.* net.

Jericho without tears. This, as the " Dig " leader, Dr. Kathleen Kenyon, explains in her admirable foreword, is no dry product of desiccated professors. Indeed a chance dive into certain pages might suggest a snappy report by a young girl for a fashion paper (see dust cover and p. 62). Further examination shows this impression to be a wrong one. Here we have a delightful study of one of the most important archaeological expeditions on the site of what is probably the oldest civilization in the world (6000? B.C.), full 3,000 years before anything similar is traceable in Britain. Through Lady Wheeler's very readable pages and sketches the lighter reader is being insidiously and painlessly indoctrinated, not only with geological and biological developments usually associated with thick learned tomes, but with the latest chemical and other discoveries, such as gases (Rift Valley?) collecting in the closed Tomb and arresting putrefaction (p. 162), and the dead reckoning of actual age of remote things by Radio Carbon (p. 68), a by-product of atomic research.

The Jericho Team know what they are doing and have an obvious mastery of the latest research experience. The " Great Sitt " (Dr. Kenyon) has seen to it that the team is a happy one. They offer better things than Billie Butlin in their yearly three months " holiday " at Camp House Headquarters.

The author's job is scale drawing and notes of every find, and measurements of every bone.

All this should indicate that this most unusual book is in a way schizophrenic. The Team and learned visitors have seen to it that the author's every pronunciamento is fundamentally and scientifically correct, a quality rarely found in such readable and in a way impressionistic narratives. The " Great Sitt's " foreword on this point reads: " Among the anecdotes and lighter touches, the fact that the author has gone to considerable trouble to ensure that the archaeological framework is accurate may not always be apparent."

But it nevertheless is so, and the reader may accept this book as an interim outline of the finds that the mound of Jericho has revealed. Other accounts, weightier and to the layman duller, will appear, but meanwhile *Walls of Jericho* may serve as an introduction to the exciting discoveries made on the site and the sort of life led by those making them.

The contents cover (p. 16):

6000? B.C. Pre-Pottery. Neolithic.
4500 „ Pottery. Neolithic.
4000 „ Chalcolithic. Mostly stone. Some copper.
3000 „ Early Bronze. The Great Builders.
2100 „ Amorite wandering tribes.
1900 „ Middle Bronze. Shepherd Kings.
1580 „ Late Bronze. Joshua.
1200 „ Iron.

There is still much to be done. Atomic and scientific research will open the door to many problems which can now only be guessed at.

What was the nature of the evolution of the first crops from wild grasses? When was the cradle of first gradation from primitive hunting to settled villages? Was Jericho the first such village or does for instance Erbil compete? (p. 79).

Clearly community life started in the Middle East where organized research from many angles by many nations is now progressively active.

This volume suggests that it wouldn't be a bad thing if Lady Wheeler could go round and give us a general series of perspectives in the same vein.

G. M. ROUTH.

The Qumrân Community: its History and Scrolls. By Charles T. Fritsch. Pp. x, 147. New York and London: The Macmillan Company. 1956. 23*s*.

The Dead Sea Scriptures: In English Translation with Introduction and Notes. By Theodor H. Gaster. Pp. x, 350. New York: Doubleday and Co., Inc. 1956. Cloth-bound edition, $4.00. Anchor Book edition, 95 cents.

Secrets of the Dead Sea Scrolls: Studies towards their Solution. By Hugh J. Schonfield. Pp. xii, 164. London: Vallentine, Mitchell. 1956. 21*s*.

The production of books on the Dead Sea Scrolls shows no sign of abating. The three now under review are but a selection of those that have appeared in 1956.

Professor Fritsch gives us a reconstruction of the life and history of the Qumran community, based on the excavations at Khirbet Qumran and the literature found in the neighbouring caves. He dates the Teacher of Righteousness in the 1st century B.C., identifies the Wicked Priest with either Alexander Jannaeus or Aristobulus II, and equates the Kitti'im with the Romans. He interprets the migration to Damascus in the Zadokite document literally, and suggests that it took place in the time of Herod the Great, whom he believes to have been a persecutor of the community. The similarities between the Qumran community and the Essenes as described by writers of the 1st century A.D. far outweigh the differences, he holds, and the community should be regarded as a branch of the wider Essene movement. The bearing of the discoveries on the New Testament is briefly considered: " some work

has already been done and much more will be forthcoming as New Testament scholars increasingly realize the importance of the new finds " (p. 111). We are not persuaded, however, that the Teacher of Righteousness was " regarded as more than human ", or even that he was identified with one of the expected Messiahs (p. 82).

Dr. Gaster has given us an English translation of several of the community documents—the Manual of Discipline, the Zadokite work, the Hymns, the Habakkuk commentary and the fragmentary commentaries on Micah, Nahum and Ps. 37, the Rule of War, the Rule of the Congregation (1 Q Sa) and a few other fragments. The translation is free; the English is elegant and vigorous. Dr. Gaster is reserving for another work a full-length discussion of the significance of this literature; but what he gives us here in his Introduction and Notes whets our appetite for this further discussion. He agrees with Isaac Rabinowitz in taking the 390 years of the Zadokite Work as ending, not beginning, with the destruction of Solomon's temple in 587 B.C. and in understanding the references to the Damascus exile figuratively; but whereas Rabinowitz identified the first Teacher of Righteousness with Nehemiah, Gaster prefers to think of Ezra (for the good reason that Ezra, unlike Nehemiah, was a priest). For both, " Teacher of Righteousness " is the title borne by a succession of religious leaders from the post-exilic period down to the last days. Dr. Gaster believes that the community documents were composed between 170 B.C. and A.D. 68, and that they represent the religious repertoire of the whole Essene brotherhood. While Professor Fritsch finds many of the rudiments of Christian belief and practice at Qumran, Dr. Gaster (while acknowledging the light thrown on the background of primitive Christianity) maintains that " the Scrolls contain no anticipation of, or parallel to, distinctive Christian doctrines " (p.vi).

Dr. Schonfield, the well-known historian of Jewish Christianity, gives us an original interpretation of the Scrolls and of the community which produced them. He suggests that they were not stored in the caves primarily to protect them from the Romans, but rather that they might serve as a library for the faithful elect in the time of consummation, so that they might have all the guidance they required for the days in which they lived. The production of this literature for this purpose he believes to have been the main activity of the community during the last half-century of its residence at Qumran. The Zadokite Work, he believes, reflects a situation in the second century B.C. (*c.* 175 B.C.), when the first Teacher of Righteousness led the migration to Damascus. This Teacher of Righteousness died in exile; a second one was expected to arise at the end-time, and this second Teacher may actually have arisen by the time the Habakkuk commentary was written. A number of problems in the Qumran literature are to be solved, Dr. Schonfield thinks, by the use of *'atbash*; by such means the Book of Hagu becomes the Book of *ṣrp* or " Purification " (*cf.* Malachi iii, 2 f.).

F. F. B.

The Committee have to acknowledge with thanks the following:—

Al Machriq. L[e] Année, Nos. 4 & 5, 1956.

American Journal of Archaeology. Vol. 60, No. 4, 1956.

Anatolian Studies. Vol. VI, 1956.

Antiquaries' Journal. Vol. XXXVI, Nos. 3-4, 1956.

Bible Lands. Vol. XIII, Nos. 12, 1956.

Biblica. Vol. 37, Nos. 3 & 4, 1956.

Biblical Archaeologist, Vol. XIX, No. 3, Sep., 1956.

Biblical Research Monthly. Vol. XXI, Nos. 10-12, 1956.

Bulletin of the American Schools of Oriental Research. No. 143, 1956.

Expository Times. Vol. LXVIII, Nos. 2-4, Nov., Dec., 1956, Jan., 1957.

Jewish Quarterly Review. Vol. XLVII, No. 2, 1956.

Journal of the American Oriental Society. Vol. 76, No. 3, 1956.

Nouvelle Revue Théologique. Vol. 78, No. 9, 1956.

Scripture. Vol. IX, No. 1, 1957.

Zeitschrift des Deutschen Palästina-Vereins. Band 72, No. 1, 1956.

OBITUARY

LADY PETRIE

The death of Lady Petrie at the age of 85 removes a striking personality from the world of archaeology, who was well-known in London, Cairo and Jerusalem.

Hilda Mary Isabel Urlin was an outstanding pre-Raphaelite beauty, who posed as one of the companions in Henry Holiday's picture of the meeting between Beatrice and Dante in Florence. Her talent as a draughtswoman added to the mutual attraction between her and her future husband, Flinders Petrie. From the time of their marriage, the young wife took part in the annual excavations in Egypt, except for those years when her son and daughter were born.

She shared in all the activities of camp life, in days when it was unusual for women to be so engaged. Her most intrepid exploit was an expedition to the copper mines of Serabit el-Khadem in Sinai, accompanied only by Miss Lina Eckenstein and their camelman. In camp, she called the roll at sunrise and paid the workmen; she prepared drawings and field notes for the publications which appeared with promptitude each year.

Nearly every summer the British share of the antiquities from the previous season were on show at University College, London, and there is no doubt that these aroused wide interest in archaeology. By creating a personal bond between the excavators and the general public, Mrs. Petrie as the Honorary Secretary of the Egyptian Research Account, which later became the British School of Archaeology in Egypt, was supremely successful as a collector of funds. During her lifetime she must have written thousands of letters in her neat and attractive script, and her appeals were hard to refuse.

In 1926, Sir Flinders decided to excavate in southern Palestine, in order to investigate the " Hyksos " period, and the title of the School was changed to British School of Egyptian Archaeology. Lady Petrie did not take part in the first three seasons, but she resumed field-work at Tell el-Ajjul (the site of ancient Gaza), and later the expedition moved to Sheykh Zuweyyid in Sinai. She accompanied her husband on his last field exploration, when they motored through Syria identifying ancient sites. During Sir Flinders' last years, Lady Petrie became a familiar figure at meetings in Jerusalem. To those who knew her only on official occasions, it might come as a surprise to find that she was capable of charming gaiety and Irish wit.

OLGA TUFNELL

ANNUAL GENERAL MEETING, 1956

General Sir John Shea, G.C.B., K.C.M.G., D.S.O., kindly accepted the invitation of the Committee of the Palestine Exploration Fund to preside on the occasion of a joint meeting with the British Academy and the British School of Archaeology in Jerusalem, held on June 27, 1956, to hear a lecture by Miss Kenyon on "Excavations at Jericho, 1956" (see *P.E.Q.*, 1956, pp. 67 ff.). Professor Zeuner was unfortunately prevented by illness from contributing a report on the dating of finds from the Neolithic strata.

Mr. FitzGerald, in welcoming Sir John Shea, remarked on the appropriateness of his presiding at a meeting of the Fund in view of his long connexion with the Royal Central Asian Society (which shares the Fund's rooms in Hinde Street) and of his prominent part in the Palestine campaign of 1917–18.

Sir John Shea expressed his pleasure in accepting the invitation of the Committee and particularly in introducing the lecturer, because as a neighbour and old friend of Miss Kenyon's family he had known her all her life. He referred to the fine record of excavations by the Fund in Jerusalem and at other sites since its foundation in 1865, and recalled that Lord Kitchener as a subaltern had worked for the Fund on the earliest surveys. In conclusion Sir John Shea said he would be sorry to think that the Fund might be hampered in its work by lack of financial support.

At the close of the lecture a vote of thanks to Miss Kenyon was proposed by Sir Mortimer Wheeler and a vote of thanks to Sir John Shea by Mr. FitzGerald. These votes having been carried by acclamation, Mr. FitzGerald took the Chair for the ordinary business of the 90th Annual General Meeting.

The Minutes of the 89th Annual General Meeting were read, approved and signed.

The Chairman referred to his report as circulated to all subscribers (see *P.E.Q.*, 1956, p. 149) and stated with pleasure that the former Honorary Secretary for 20 years, Canon C. B. Mortlock, had accepted the invitation extended by the Executive Committee to become Vice-Chairman. His appointment was confirmed by the meeting.

The Honorary Treasurer's Report was presented by Mr. Oliver Thompson, who drew attention to the fact that a notable source of income had been the sale of old publications. The audited accounts were approved by the meeting, unanimously.

Mr. FitzGerald, after paying tribute to Professor Hooke's work as Editor of the *Quarterly* over a period of a quarter of a century, asked Professor Hooke to propose his successor. Professor F. F. Bruce, Head of the Department of Biblical History and Literature in Sheffield University, was proposed by Professor Hooke. Dr. Waechter seconded the proposal, which was carried unanimously.

Dr. Diringer then proposed that Professor Bruce be made a member of

the Executive Committee of the Fund forthwith; seconded by Mr. Hamilton, this was agreed by all present.

Mr. L. E. C. Evans proposed that with this addition the Executive Committee as at present constituted be elected for the forthcoming year. The meeting approved without dissension.

On a proposal by Miss Tufnell, seconded by the Honorary Secretary, Messrs. Turquand Young were unanimously appointed Auditors for the Fund for the year 1956.

The meeting then terminated.

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